

Chapter 1 Quiz (20 Points)

True/False Questions (10 Points)

1. True or False: A hypothesis is an educated guess that can be tested by experimentation.
Point Value: 1
2. True or False: A scientific theory is an unproven idea that science cannot test.
Point Value: 1
3. True or False: Scientific laws are descriptions of observed phenomena, but they do not explain why the phenomena occur.
Point Value: 1
4. True or False: The observation phase in the scientific method involves developing a new theory.
Point Value: 1
5. True or False: Theories in science can change as new evidence becomes available.
Point Value: 1
6. True or False: A hypothesis must always be correct for it to contribute to scientific knowledge.
Point Value: 1
7. True or False: A scientific theory becomes a scientific law after it has been proven to be true.
Point Value: 1
8. True or False: Experimental results that do not support a hypothesis can lead to the development of a new or revised hypothesis.
Point Value: 1
9. True or False: The law of gravity is an example of a scientific law that explains why objects fall to the ground.
Point Value: 1
10. True or False: Reproducibility of experimental results is a key element in the scientific method.
Point Value: 1

Multiple Choice Questions (10 Points)

1. **What is the first step in the scientific method?**
A) Forming a hypothesis
B) Conducting an experiment
C) Making an observation
D) Developing a theory
Point Value: 2
2. **Which term is used to describe an initial educated guess that explains a phenomenon?**
A) Theory
B) Law
C) Hypothesis
D) Observation
Point Value: 2

3. Which of the following best describes a scientific law?

- A) An educated guess
- B) A description of a consistent and universal phenomenon
- C) A tentative and testable statement
- D) d) A proven fact

Point Value: 2

4. What distinguishes a theory from a hypothesis?

- A) A hypothesis is a well-tested explanation, while a theory is a tentative idea.
- B) A theory is formed before a hypothesis.
- C) A theory is a comprehensive explanation while a hypothesis is a proposed explanation.
- D) A hypothesis is considered irrefutable, while a theory is not.

Point Value: 2

5. Which of the following is an example of the scientific method's "Experiments" phase?

- A) Generating initial observations
- B) Conducting experiments to gather data
- C) Formulating potential explanations
- D) Collecting existing scientific theories

Point Value: 2