

Student Name: _____

Date: _____

Section 1: Multiple Choice (25 pts)

1. First step in scientific method?

- A) Experiment
- B) Analyze data
- C) Ask a question
- D) Form a hypothesis

2. The independent variable is:

- A) What you measure
- B) What you change
- C) What stays the same
- D) Your prediction

3. A hypothesis must be:

- A) True
- B) Proven
- C) Testable
- D) Correct

4. Metric unit for volume is:

- A) Gram
- B) Meter
- C) Liter
- D) Kelvin

5. 1 meter = ____ centimeters

- A) 10
- B) 100
- C) 1000
- D) 10000

6. Which tool measures MASS?

- A) Ruler
- B) Thermometer
- C) Balance
- D) Graduated cylinder

7. A controlled experiment changes:

- A) All variables
- B) Only dependent variable
- C) Only independent variable
- D) Nothing

8. A valid conclusion must:

- A) Prove hypothesis
- B) Reference data and hypothesis
- C) Be in first person
- D) Have no errors

9. Reading cylinder at eye level prevents:

- A) Spilling
- B) Parallax error
- C) Chemical reactions
- D) Temperature changes

10. Two things happen together. This means:

- A) One causes the other
- B) They might be related
- C) Experiment worked
- D) Data is valid

Section 2: Matching (10 pts)

1. Independent variable

A. What you measure/observe

2. Dependent variable

B. What you are testing/changing

3. Constant

C. Results that support the prediction

4. Hypothesis

D. What stays the same in experiment

5. Meniscus

E. The liquid curve in a graduated cylinder

Section 3: Show Your Work (10 pts)

1. Design an experiment to test whether salt affects how fast water boils. Identify IV, DV, one constant, and write a hypothesis.

2. A pencil measures 19.3 cm. Convert this to mm and to m. Show your work.

3. Explain the difference between an observation and an inference. Give one example of each.

Multiple Choice Answers:

1. C
2. B
3. C
4. C
5. B
6. C
7. C
8. B
9. B
10. B