

Chapter 1 Study Guide

Name: _____

Date: _____

Period: _____

Directions: Match the correct lab equipment name with each picture

___ 1. Graduated cylinder

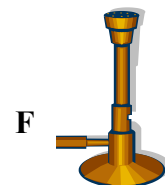
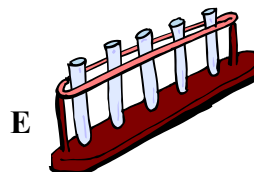
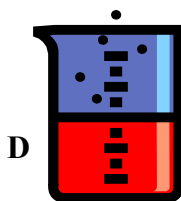
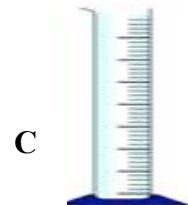
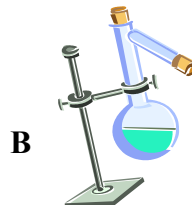
___ 2. Triple beam balance

___ 3. Bunsen burner

___ 4. Beaker

___ 5. Test tubes

___ 6. Ring stand



Directions: Complete the sentence.

___ 7. Mass is the measure of the amount of _____ in an object.

___ 8. Volume measures the amount of _____ an object takes up.

___ 9. The name of the equipment used to measure mass is: _____.

___ 10. The unit used to measure mass is the: _____.

___ 11. The name of the equipment used to (*best*) measure volume is: _____.

___ 12. The unit used to measure volume is the: _____.

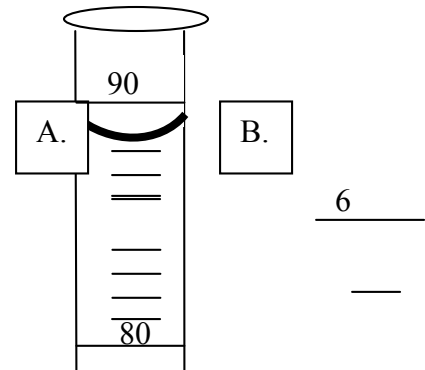
___ 13. When measuring volume you always read from the _____ of the curved line, called the meniscus.

___ 14. How do you find the volume of a block (regularly shaped solid)?

- Place it on a triple beam balance
- Measure its length, width and height and add them together. ($L + W + H$)
- Measure its length, width and height and multiply them. ($L \times W \times H$)
- Use a measuring tape and go around all four sides.

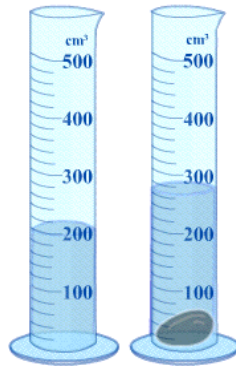
___ 15. What is the volume of the liquid in graduated cylinder A?

___ 16. What is the volume of the liquid in graduated cylinder B?



___ 17. What is the volume of the solid in the 2nd graduated cylinder? Look at the two graduated cylinders below. Read the volume of water in each cylinder to find what the volume of the solid in the 2nd graduated cylinder is.

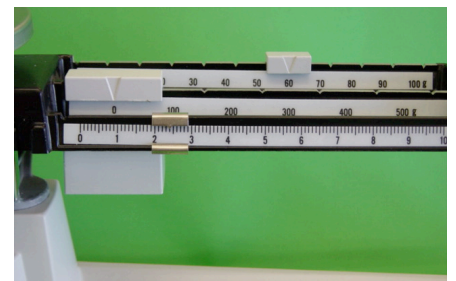
Graduated cylinder with just water in it.



Same graduated cylinder after a solid has been placed in it.

Answer= _____

___ 23. What is the mass of the object on the triple beam balance?



___ 24. A series of logical steps that is followed in order to solve a problem is called the

___ 25. The first step in the scientific method is usually

___ 26. Scientists test a hypothesis by

___ 27. What does it mean to say that "no experiment is a failure"?

___ 28. A precise measurement is one that

___ 29. A measurement that is accurate is one that

____ 30. What is a system of knowledge and the methods used to find that knowledge?

____ 31. How are science and technology related?

____ 32. In which step of the scientific method is information obtained through the senses?

____ 33. What happens when the data in an investigation do not support the original hypothesis?

____ 34. What is a statement that summarizes a pattern found in nature?

____ 35. Which of the following statements is true about scientific theories?

____ 36. What is a physical or mental representation of an object or an event?

____ 37. Why are scientific models important?

____ 38. Timers at a swim meet used four different clocks to time an event. Which recorded time is the most precise?

- a. 55 s
- b. 55.2 s
- c. 55.25 s
- d. 55.254 s

____ 39. Which of the following clocks offers the most precision?

- a. A clock with only one hand to measure the hour
- b. A clock with only one hand to measure the minutes
- c. A clock with a hand to measure the hour and a hand to measure the minutes
- d. a clock with a hand to measure the hour, a hand to measure the minutes, and a hand to measure the seconds

____ 40. The type of graph used to show how a part of something relates to the whole is which of the following?

41. Identify the one THAT IS NOT an example from history that shows a modification to a scientific theory?

- a. Darwin's finch challenging the theory that species do not change.
- b. The space age showing the moon is made of Earth-like material.
- c. The atom is not a solid sphere
- d. That toilets flush backward in Australia because of the Coriolis Effect

37. Explain how technology and science are related.

Exceeds: Describe two examples in history that show the relationship.

38. Write a hypothesis OR question from the following observation: "You push the power button on your TV remote and it doesn't come on."

EXCEEDS: Write BOTH a hypothesis and question.

39. Design an experiment to be tested from the following observations (include: Diagram, labels, safety and procedure).

“You wonder if mustard or ketchup would freeze faster in your freezer.”

For EXCEEDS. Identify the independent Variable, Dependent variable, controls.

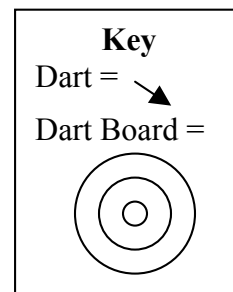
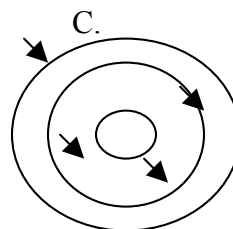
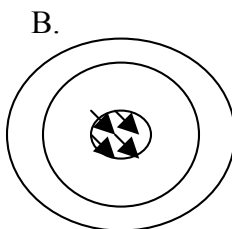
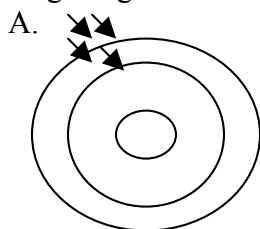
True/False

Indicate whether the sentence or statement is true(**T**) or false(**F**).

Completion: Complete each sentence or statement by writing in the correct scientific word.

- ___ 35. A possible answer to a scientific problem is called a _____.
- ___ 36. Any factor in an experiment that can change is referred to as a _____.
- ___ 37. Line graphs are most effective at displaying data that _____.
- ___ 38. The best kind of graph to show the parts of a whole, would be a _____.
- ___ 39. The best kind of graph to make to show the density of a number of different substances, would be a _____.
- ___ 40. The SI base unit of temperature is the _____.
- ___ 41. A measurement must include both a number and a(an) _____.
- ___ 42. An experiment in which only one variable, the manipulated variable, is changed at a time is called a(an) _____.
- ___ 43. Computers are an example of a(an) _____ that helps people solve problems.
- ___ 44.

Interpreting Diagrams: Dart Board and Darts



- ___ 40. Which diagram above represents accuracy **and** precision?
 a. A, B or C?
- ___ 41. Which diagram above represents precision but **not** accuracy?
 a. A, B or C?
- ___ 42. Use the 5 commandments (rules) of graphing to make a bar graph to represent the following data:

“The Growling Stomach Lab”

Person	Pieces of Pizza Eaten
Sally	2
Jeff	8
Sam	1
Gillian	10

