Name _____ Class_____ Date_____

Skills Worksheet

Study Guide – Ch 2

MATCHING

In the space provided, write the letter of the description that best matches the term or phrase.

_____ 1. control group
_____ 2. prediction
_____ 3. physical model
_____ 4. risk
_____ 5. conceptual model
_____ 6. value
_____ 7. experiment
_____ 8. statistics
_____ 9. data

a. a logical statement about what will happen in an experiment
b. a verbal or graphical explanation for how a system works or how it is organized
c. in an experiment, that which does not receive the experimental treatment
d. a three-dimensional model you can touch
e. principles or standards considered to be important
f. the probability of an unwanted outcome
g. information gathered during an experiment
h. procedure designed to test a hypothesis
i. collection and classification of data

MULTIPLE CHOICE

Choose the best response. Write the letter of that choice in the space provided.

_____ 10. When it is not possible to conduct an experiment, scientists test their predictions by
a. examining correlations.
b. using a control.
c. testing for one variable.
d. remaining skeptical.

_____ 11. An essential feature of every good experiment is that it should
a. use a control.
b. test a single variable.
c. graph data.
d. Both (a) and (b)

_____ 12. Experimental methods include which of the following steps?
a. remaining skeptical, organizing data, and analyzing data
b. drawing conclusions, being open to new ideas, and communicating results
c. observing, hypothesizing, predicting, experimenting, and communicating results
d. being curious, imagining, being able to see patterns, observing, and predicting

_____ 13. What is not a description of a good hypothesis?
a. It makes logical sense.
b. It is a testable explanation of an observation.
c. It follows from what you already know about a situation.
d. It is a guess based on previous experiments.

_____ 14. One of the key habits of mind of scientists is _____, which allows scientists to expand the boundaries of what we know.
a. intellectual honesty
b. imagination
c. replication
d. correlation

_____ 15. A road map is an example of a
a. graphical model.
b. mathematical model.
c. conceptual model.
d. physical model.

_____ 16. Statistics are not used by scientists to
a. compare data.
b. analyze data.
c. gather data.
d. All of the above

_____ 17. In a scientific investigation, the size of the sample population should be large enough to
a. reflect the probability of an unwanted outcome.
b. give an accurate estimate of the whole population.
c. closely resemble the system they represent.
d. All of the above

_____ 18. If you consider what will add to our understanding of the natural world in making an environmental decision, you are examining a(n) _____ value.
a. ethical/moral
b. aesthetic
c. environmental
d. scientific

_____ 19. What is the first step in an environmental decision-making model?
a. Explore the consequences of each option.
b. Consider which values apply to the issue.
c. Make a decision.
d. Gather information.

_____ 20. When you examine a scientific value in making an environmental decision, you
a. consider what is right or wrong.
b. consider what will maintain human health.
c. use your understanding of the natural world.
d. think about what will promote learning.

_____ 21. Which of the following is a possible short-term consequence of creating a nature preserve?
a. decrease in habitat destruction
b. an increase in property values near the preserve
c. a restriction of recreational activities on private land within the preserve by state officials
d. all of the above