

Skills Worksheet

Concept Review**MATCHING**

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

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| _____ 1. control group | a. a logical statement about what will happen in an experiment |
| _____ 2. prediction | b. a verbal or graphical explanation for how a system works or how it is organized |
| _____ 3. physical model | c. in an experiment, that which does not receive the experimental treatment |
| _____ 4. risk | d. a three-dimensional model you can touch |
| _____ 5. conceptual model | e. principles or standards considered to be important |
| _____ 6. value | f. the probability of an unwanted outcome |
| _____ 7. experiment | g. information gathered during an experiment |
| _____ 8. statistics | h. procedure designed to test a hypothesis |
| _____ 9. data | 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
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| a. examining correlations. | c. testing for one variable. |
| b. using a control. | d. remaining skeptical. |
- _____ 11. An essential feature of every good experiment is that it should
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| a. use a control. | c. graph data. |
| b. test a single variable. | d. Both (a) and (b) |
- _____ 12. The experimental method includes which of the following steps?
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| 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?
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| 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. |

Concept Review *continued*

- _____ 14. One of the key habits of mind of scientists is _____, which allows scientists to expand the boundaries of what we know.
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| a. intellectual honesty | c. replication |
| b. imagination | d. correlation |
- _____ 15. A road map is an example of a
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| a. graphical model. | c. conceptual model. |
| b. mathematical model. | d. physical model. |
- _____ 16. Statistics are not used by scientists to
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| a. compare data. | c. gather data. |
| b. analyze data. | d. All of the above |
- _____ 17. In a scientific investigation, the size of the sample population should be large enough to
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| 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.
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| a. ethical/moral | c. environmental |
| b. aesthetic | d. scientific |
- _____ 19. What is the first step in an environmental decision-making model?
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| 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
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| 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?
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| 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 |