ch02

Student: _____

1. _____ is a process for producing knowledge methodically and logically.
   A. Universalism
   B. Science
   C. Relativism
   D. Morality
   E. Parsimony

2. Ideally, science
   A. Is correct most of the time
   B. Tells us what we expected to find
   C. Uses new technology
   D. Is orderly and methodical
   E. Proves that our hypotheses are correct

3. Which of the following is not an important feature of science?
   A. Reproducibility
   B. Parsimony
   C. Empiricism
   D. Positive proof
   E. All are important

4. Generally, distinguished scientists
   A. Always agree if they really are expert scientists
   B. May have different interpretations of the same evidence
   C. Never disagree once a theory is established
   D. Believe each other and support each other in their work
   E. Always disagree so they can prove theories

5. Proof in science is always
   A. Firmly established
   B. Beyond question
   C. An impossible goal
   D. Changing very quickly
   E. Open to question or new evidence

6. The statement, "Since every insect I have examined so far has six legs, I conclude that all insects must have six legs." is an example of
   A. Inductive reasoning
   B. Deductive reasoning
   C. Hypothesis testing
   D. Reductive reasoning
   E. Parsimony

7. Of the following statements and questions, which is the best example of deductive reasoning?
   A. If all insects have six legs, then butterflies have six legs
   B. In repeated tosses of a coin, there is a 50/50 chance of each toss resulting in a "head."
   C. How many times will the toss of coins turn "heads-up" if 100 people each toss a coin?
   D. Since every insect I have examined so far has six legs, I conclude that all insects must have six legs
   E. All of these are examples of deductive reasoning

8. Although your sister is not a scientist, she says that she uses scientific techniques in her everyday life. You do not believe her but she insists it is true. Which of the following examples could she use to best persuade you?
   A. When she cooks she measures ingredients and puts them together to form something else (e.g., a cake)
   B. When she drives in her car she hypothesizes about things (e.g., when the red light will turn green)
   C. She put some tomatoes in the sun and some in the shade to see if the sun causes them to ripen faster
   D. She buys a brand of toothpaste based on statistical data (four out of five dentists recommend it)
   E. All of these are examples of using scientific techniques in her everyday life

9. Experiments in which conditions are deliberately altered and all other variables are held constant are known as _____ experiments.
   A. Manipulative
   B. Natural
   C. Hypothetical
   D. Probability
   E. Double-blind

10. Double-blind studies are especially useful in
   A. Genetic experiments
   B. Health studies
   C. Statistical analysis
   D. Opinion surveys
   E. Double-blind studies are not useful in any situation

11. In experimentation, dependent variables are also known as _____ variables.
   A. Conventional
   B. Blind
   C. Response
   D. Model
   E. Distribution

12. _____ allow scientists to gather information about complicated and interrelated environmental systems.
   A. Charts
   B. Graphs
   C. Models
   D. Figures
   E. Paradigm shifts

13. Networks of interactions among interdependent factors are known as
   A. Science
   B. Ecology
   C. Systems
   D. Processes
   E. Negative feedback loops

14. The damage to an ecosystem caused by a hurricane or flood can be referred to as
   A. An open system
   B. An emergent property
   C. Equilibrium in nature
   D. A disturbance
   E. Negative feedback loop

15. An important value of science is that it provides the methodology to prove that a theory is correct.
   True False

16. Science progress mainly happens when a scientist working in isolation discovers something very important.
    True False

17. Paradigm shifts occur when ethical considerations are incorporated into scientific theory.
    True False

ch02 Key

1. _____ is a process for producing knowledge methodically and logically.
   A. Universalism
   B. Science
   C. Relativism
   D. Morality
   E. Parsimony

Blooms: 1. Remember
Cunningham - Chapter 02 #1
Section: 02.01
Topic: Science

2. Ideally, science
   A. Is correct most of the time
   B. Tells us what we expected to find
   C. Uses new technology
   D. Is orderly and methodical
   E. Proves that our hypotheses are correct

Blooms: 1. Remember
Cunningham - Chapter 02 #2
Section: 02.01
Topic: Science

3. Which of the following is not an important feature of science?
   A. Reproducibility
   B. Parsimony
   C. Empiricism
   D. Positive proof
   E. All are important

Blooms: 2. Understand
Cunningham - Chapter 02 #3
Section: 02.01
Topic: Science

4. Generally, distinguished scientists
   A. Always agree if they really are expert scientists
   B. May have different interpretations of the same evidence
   C. Never disagree once a theory is established
   D. Believe each other and support each other in their work
   E. Always disagree so they can prove theories

Blooms: 2. Understand
Cunningham - Chapter 02 #4
Section: 02.01
Topic: Science

5. Proof in science is always
   A. Firmly established
   B. Beyond question
   C. An impossible goal
   D. Changing very quickly
   E. Open to question or new evidence

Blooms: 2. Understand
Cunningham - Chapter 02 #5
Section: 02.01
Topic: Science

6. The statement, "Since every insect I have examined so far has six legs, I conclude that all insects must have six legs." is an example of
A. Inductive reasoning
B. Deductive reasoning
C. Hypothesis testing
D. Reductive reasoning
E. Parsimony

Blooms: 2. Understand
Cunningham - Chapter 02 #6
Section: 02.01
Topic: Science

7. Of the following statements and questions, which is the best example of deductive reasoning?
A. If all insects have six legs, then butterflies have six legs
B. In repeated tosses of a coin, there is a 50/50 chance of each toss resulting in a "head."
C. How many times will the toss of coins turn "heads-up" if 100 people each toss a coin?
D. Since every insect I have examined so far has six legs, I conclude that all insects must have six legs
E. All of these are examples of deductive reasoning

Blooms: 2. Understand
Cunningham - Chapter 02 #7
Section: 02.01

8. Although your sister is not a scientist, she says that she uses scientific techniques in her everyday life. You do not believe her but she insists it is true. Which of the following examples could she use to best persuade you?
A. When she cooks she measures ingredients and puts them together to form something else (e.g., a cake)
B. When she drives in her car she hypothesizes about things (e.g., when the red light will turn green)
C. She put some tomatoes in the sun and some in the shade to see if the sun causes them to ripen faster
D. She buys a brand of toothpaste based on statistical data (four out of five dentists recommend it)
E. All of these are examples of using scientific techniques in her everyday life

Blooms: 2. Understand
Cunningham - Chapter 02 #8
Section: 02.01
Topic: Science

9. Experiments in which conditions are deliberately altered and all other variables are held constant are known as _____ experiments.
A. Manipulative
B. Natural
C. Hypothetical
D. Probability
E. Double-blind

Blooms: 1. Remember
Cunningham - Chapter 02 #9
Section: 02.01
Topic: Science

10. Double-blind studies are especially useful in
A. Genetic experiments
B. Health studies
C. Statistical analysis
D. Opinion surveys
E. Double-blind studies are not useful in any situation

Blooms: 1. Remember
Cunningham - Chapter 02 #10
Section: 02.01
Topic: Science

11. In experimentation, dependent variables are also known as _____ variables.
A. Conventional
B. Blind
C. Response
D. Model
E. Distribution

Blooms: 1. Remember
Cunningham - Chapter 02 #11
Section: 02.01
Topic: Science

12. _____ allow scientists to gather information about complicated and interrelated environmental systems.
A. Charts
B. Graphs
C. Models
D. Figures
E. Paradigm shifts

Blooms: 2. Understand
Cunningham - Chapter 02 #12
Section: 02.01
Topic: Science

13. Networks of interactions among interdependent factors are known as
A. Science
B. Ecology
C. Systems
D. Processes
E. Negative feedback loops

Blooms: 1. Remember
Cunningham - Chapter 02 #13
Section: 02.02
Topic: Science

14. The damage to an ecosystem caused by a hurricane or flood can be referred to as
A. An open system
B. An emergent property
C. Equilibrium in nature
D. A disturbance
E. Negative feedback loop

Blooms: 1. Remember
Cunningham - Chapter 02 #14
Section: 02.02
Topic: Science

15. An important value of science is that it provides the methodology to prove that a theory is correct.
FALSE

Blooms: 2. Understand
Cunningham - Chapter 02 #15
Section: 02.01
Topic: Science

16. Science progress mainly happens when a scientist working in isolation discovers something very important.
FALSE

Blooms: 1. Remember
Cunningham - Chapter 02 #16
Section: 02.03
Topic: Science

17. Paradigm shifts occur when ethical considerations are incorporated into scientific theory.
FALSE

Blooms: 1. Remember
Cunningham - Chapter 02 #17
Section: 02.03
Topic: Science

ch02 Summary

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