

Chapter 01: Testbank

Student: <https://selldocx.com/products/test-bank-human-biology-15e-dr>

1. The scientific study of life is called
 - A. biology.
 - B. ecology.
 - C. anatomy.
 - D. biochemistry.
 - E. limnology.
2. A complex individual that consists of organ systems is known as a(n)
 - A. community.
 - B. population.
 - C. organism.
 - D. tissue.
 - E. species.
3. All of the ecosystems on the planet together are called the
 - A. atmosphere.
 - B. hydrosphere.
 - C. biosphere.
 - D. lithosphere.
 - E. stratosphere.
4. In a swamp, all of the alligators would represent a(n)
 - A. organism.
 - B. population.
 - C. community.
 - D. ecosystem.
 - E. biosphere.
5. All organisms are composed of multiple cells.

True False
6. The region in which populations interact with each other and with the physical environment is called a(n)
 - A. entity.
 - B. ecosystem.
 - C. biosystem.
 - D. community.
 - E. biosphere.
7. All of the changes that occur starting from the time an egg is fertilized and continuing through childhood, adolescence, and adulthood are called
 - A. metabolism.
 - B. evolution.
 - C. homeostasis.
 - D. reproduction.
 - E. development.
8. Which of the following statements most correctly defines homeostasis?
 - A. All living organisms are alike.
 - B. Living organisms do not change much over time.
 - C. Human beings and other animals acquire materials and energy when they eat food.

- D. It takes energy to maintain the organization of the cell.
E. Cells and organisms maintain a fairly constant internal environment.
9. The process of change that produces the diversity of life on Earth is called
- A. evolution.
 - B. homeostasis.
 - C. levels of organization.
 - D. biological classification.
 - E. acclimation.
10. Four million years ago, horses were rather small compared to today's horses and had relatively stocky bodies with a straight shoulder and thick neck. This statement is an illustration of which biological concept?
- A. metabolism
 - B. evolution
 - C. development
 - D. homeostasis
 - E. reproduction
11. The face of a sunflower turns to follow the sun as it moves across the sky. This is an example of
- A. metabolism.
 - B. homeostasis.
 - C. response to stimuli.
 - D. development.
 - E. reproduction.
12. Choose the correct order (1-5) of increasing complexity/organization.
- A. (1) tissues, (2) organ systems, (3) cells, (4) organs, (5) organism
 - B. (1) cells, (2) organ systems, (3) tissues, (4) organs, (5) organism
 - C. (1) tissues, (2) organs, (3) organ systems, (4) cells, (5) organism
 - D. (1) cells, (2) tissues, (3) organs, (4) organ systems, (5) organism
 - E. (1) organism, (2) organ systems, (3) organs, (4) tissues, (5) cells
13. The development of resistance of MRSA bacteria to antibiotics is an example of
- A. homeostasis.
 - B. metabolism.
 - C. evolution.
 - D. reproduction.
 - E. organization.
14. Fish have scales that enable them to live in a water environment. This is an example of
- A. homeostasis.
 - B. adaptation.
 - C. metabolism.
 - D. development.
 - E. cellular organization.
15. The domain Eukarya contains _____ kingdom(s).
- A. one
 - B. two
 - C. three
 - D. four
 - E. five
16. Traditions, beliefs, and values are considered what aspect of human life?
- A. communicative
 - B. cultural

- C. instructional
- D. biological
- E. chemical

17. The cell you are examining under the microscope appears to contain a nucleus. This organism belongs to the domain
- A. Bacteria.
 - B. Archaea.
 - C. Eukarya.
 - D. Animalia.
 - E. Fungi.

18. Which organisms are most closely related to humans?

- A. spiders
- B. earthworms
- C. parakeets
- D. meerkats
- E. snakes

19. Humans evolved from apes.

True False

20. Only humans have a language that allows for the communication of information and experiences symbolically.

True False

21. Humans clear forests to grow crops, and they build houses and cities. What are these an example of?

- A. how humans modify the biosphere
- B. how humans preserve ecosystems
- C. the high value humans place on biodiversity
- D. the positive impact of humans on life on Earth
- E. how humans do not need the rest of life on Earth

22. Humans are part of the biosphere and must live in harmony with it if we are to survive as a species.

True False

23. _____ observations are supported by factual information, while _____ observations involve personal judgment.

- A. Subjective; analytical
- B. Objective; analytical
- C. Objective; subjective
- D. Objective; hypothetical
- E. Subjective; theoretical

24. Which of the following statements is an objective observation?

- A. This milk tastes funny.
- B. This package is larger than that one.
- C. I like this picture.
- D. This mattress feels hard to me.
- E. I think I am going to be sick.

25. What is the unifying principle of the biological sciences?

- A. technology
- B. anatomy

- C. biochemistry
- D. taxonomy
- E. evolution

26. Where on a graph can you find the information that the graph pertains to?

- A. The x-axis only.
- B. The y-axis only.
- C. The dot points that are connected by the lines of the graph.
- D. The top of each bar in a bar graph.
- E. The x-axis and y-axis.

27. The tentative explanation to be tested is called

- A. a theory.
- B. a hunch.
- C. a hypothesis.
- D. the data.
- E. the conclusion.

28. Line graphs are used to depict the relationship between two quantities.

True False

29. The information collected during the experiment or observation is called

- A. a theory.
- B. a hunch.
- C. the hypothesis.
- D. the data.
- E. the conclusion.

30. The general public needs to have an understanding of science in order to make informed decisions about the future of our species.

True False

31. Which of the following is not a basic theory of biology?

- A. theory of ecosystems
- B. cell theory
- C. gene theory
- D. theory of evolution
- E. theory of gravity

32. The cause of stomach ulcers appears to be

- A. excess stomach acid.
- B. the bacterium *Helicobacter pylori*.
- C. drinking too much coffee.
- D. extreme stress.
- E. diets rich in meat products.

33. Which of the following statements is a hypothesis?

- A. If a student buys a meal plan, he or she will eat more vegetables.
- B. Ginny gained 5 lbs her freshman year.
- C. Blake failed the test.
- D. There are more calories in french fries than in colas.
- E. I like my biology class better than my other classes.

34. A controlled study in which neither the patient nor the examiner is aware of whether the patient is receiving a treatment, is called a(n)

- A. statistical study.
- B. double-blind study.
- C. variable study.
- D. adaptive study.
- E. blind study.

35. In an experiment designed to test the effect of temperature on goldfish respiration, the temperatures that were changed represent what type of variable?

- A. control
- B. responding
- C. experimental
- D. correlative
- E. placebo

36. If the control group in an experiment shows the same results as the test group, the treatment was successful.

True False

37. To make all subjects think they are receiving the same treatment, patients in the control group can receive a placebo.

True False

38. One of the difficulties with publication of research in scientific journals is that it

- A. is technical and may be difficult for a layperson to read.
- B. is often out of context or misunderstood.
- C. is unverified and usually not referenced.
- D. displays bias.
- E. is designed to convince readers to purchase a product.

39. Which of the following URLs would you most distrust in writing a scientific paper?

- A. .com
- B. .gov
- C. .edu
- D. .org
- E. Both .edu and .gov

40. An important part of scientific research is repeatability.

True False

41. The standard error tells

- A. how often the examiner made an error.
- B. how often the experimental variable was tested.
- C. the relationship between the control and test groups.
- D. whether or not the research has been published in a scientific journal.
- E. how uncertain a particular value is.

42. A probability value of less than 5% in a scientific study is acceptable.

True False

43. Which of the following is an example of correlation without causation?

- A. HPV can cause cervical cancer.
- B. Illegal drug use causes an increase in crime.
- C. *Helicobacter pylori* can cause ulcers.

- D. People who commit crimes also consume bread.
E. Parents have children.
44. In a graph, the experimental variable is plotted on the
- A. x-axis.
 - B. y-axis.
 - C. x- and y-axis.
 - D. z-axis.
 - E. x- and z-axis.
45. Choose the following interest group that should be held most responsible for the future roles of new scientific technologies.
- A. scientists
 - B. politicians
 - C. clergy
 - D. educators
 - E. everyone
46. In conducting a review of the literature on the Internet, which of the following sources would be the least reliable?
- A. The Centers of Disease Control
 - B. The Cystic Fibrosis Foundation
 - C. The National Institute of Health
 - D. The Pasteur Institute
 - E. Astrology and Medicine
47. After studying biology, it is hoped that you will
- A. become an animal rights activist.
 - B. be better able to make wise decisions regarding your own well-being and the Earth's.
 - C. get a high paying job as a biologist.
 - D. understand all there is to know about humans and biology.
 - E. dislike anything to do with biology.
48. Technology is the application of scientific knowledge to the interests of humans.
- True False
49. Scientists who have a financial stake in a company are now required to state that when they do research. This is an example of
- A. ethics in science.
 - B. financial planning.
 - C. a new business model.
 - D. a biotechnology revolution.
 - E. statistical significance.
50. Which of the following statements best explains the atomic bomb and the benefit of nuclear physics to cancer therapy?
- A. Science and technology are not risk free.
 - B. Science and technology are wrong.
 - C. Science and technology are good for mankind.
 - D. Science and technology are value-neutral.
 - E. Science and technology always provide value to people.
51. List the four kingdoms of life that are classified under the domain Eukarya and indicate the key features of each.

52. List the characteristics that are common to all living organisms.
53. Describe the steps associated with the scientific method.

Chapter 01: Testbank Key

1. The scientific study of life is called

A. biology.
B. ecology.
C. anatomy.
D. biochemistry.
E. limnology.

Biology is the study of life.

Blooms Level: 1. Remember
Learning Outcome: 01.01.01 Explain the basic characteristics that are common to all living organisms.
Section: 01.01
Topic: Levels of Biological Organization

2. A complex individual that consists of organ systems is known as a(n)

A. community.
B. population.
C. organism.
D. tissue.
E. species.

A complex individual that consists of organ systems is known as an organism.

Blooms Level: 1. Remember
Learning Outcome: 01.01.02 Describe the levels of organization of life.
Section: 01.01
Topic: Levels of Biological Organization

3. All of the ecosystems on the planet together are called the

A. atmosphere.
B. hydrosphere.
C. biosphere.
D. lithosphere.
E. stratosphere.

The biosphere is the sphere that contains all life, made up of all Earth's ecosystems.

Blooms Level: 1. Remember
Learning Outcome: 01.01.02 Describe the levels of organization of life.
Section: 01.01
Topic: Biodiversity
Topic: Levels of Biological Organization

4. In a swamp, all of the alligators would represent a(n)

A. organism.
B. population.
C. community.
D. ecosystem.
E. biosphere.

The alligators in a swamp are all members of one species and belong to a population.

Blooms Level: 2. Understand
Learning Outcome: 01.01.02 Describe the levels of organization of life.
Section: 01.01
Topic: Levels of Biological Organization

5. All organisms are composed of multiple cells.

FALSE

Some organisms are single cells.

*Blooms Level: 2. Understand
Learning Outcome: 01.01.02 Describe the levels of organization of life.
Section: 01.01
Topic: Levels of Biological Organization*

6. The region in which populations interact with each other and with the physical environment is called a(n)

A. entity.
B. ecosystem.
C. biosystem.
D. community.
E. biosphere.

An ecosystem includes populations of organisms interacting with each other and the physical environment.

*Blooms Level: 1. Remember
Learning Outcome: 01.01.02 Describe the levels of organization of life.
Section: 01.01
Topic: Biodiversity
Topic: Levels of Biological Organization*

7. All of the changes that occur starting from the time an egg is fertilized and continuing through childhood, adolescence, and adulthood are called

A. metabolism.
B. evolution.
C. homeostasis.
D. reproduction.
E. development.

Development includes the changes that occur in an organism throughout its lifetime.

*Blooms Level: 1. Remember
Learning Outcome: 01.01.03 Summarize how the terms homeostasis, metabolism, development, and adaptation all relate to living organisms.
Section: 01.01
Topic: Levels of Biological Organization*

8. Which of the following statements most correctly defines homeostasis?

A. All living organisms are alike.
B. Living organisms do not change much over time.
C. Human beings and other animals acquire materials and energy when they eat food.
D. It takes energy to maintain the organization of the cell.
E. Cells and organisms maintain a fairly constant internal environment.

Homeostasis is the ability of living things to maintain an internal environment that operates under specific conditions.

*Blooms Level: 4. Analyze
Learning Outcome: 01.01.03 Summarize how the terms homeostasis, metabolism, development, and adaptation all relate to living organisms.
Section: 01.01
Topic: Levels of Biological Organization*

9. The process of change that produces the diversity of life on Earth is called

A. evolution.
B. homeostasis.
C. levels of organization.
D. biological classification.
E. acclimation.

Evolution is the process of change that produces the diversity of life on Earth.

10. Four million years ago, horses were rather small compared to today's horses and had relatively stocky bodies with a straight shoulder and thick neck. This statement is an illustration of which biological concept?
- A. metabolism
 - B. evolution**
 - C. development
 - D. homeostasis
 - E. reproduction

Evolution is the process by which a species changes through time.

11. The face of a sunflower turns to follow the sun as it moves across the sky. This is an example of
- A. metabolism.
 - B. homeostasis.
 - C. response to stimuli.**
 - D. development.
 - E. reproduction.

Movement in response to sunlight is an example of response to an external stimulus.

12. Choose the correct order (1-5) of increasing complexity/organization.
- A. (1) tissues, (2) organ systems, (3) cells, (4) organs, (5) organism
 - B. (1) cells, (2) organ systems, (3) tissues, (4) organs, (5) organism
 - C. (1) tissues, (2) organs, (3) organ systems, (4) cells, (5) organism
 - D. (1) cells, (2) tissues, (3) organs, (4) organ systems, (5) organism**
 - E. (1) organism, (2) organ systems, (3) organs, (4) tissues, (5) cells

The levels of organization include: (1) cells, (2) tissues, (3) organs, (4) organ systems, (5) organism.

13. The development of resistance of MRSA bacteria to antibiotics is an example of
- A. homeostasis.
 - B. metabolism.
 - C. evolution.**
 - D. reproduction.
 - E. organization.

Resistance in MRSA is an example of adaptation and evolution.

14. Fish have scales that enable them to live in a water environment. This is an example of
- A. homeostasis.
 - B. adaptation.**
 - C. metabolism.
 - D. development.
 - E. cellular organization.

Adaptation provides members of a population with a better chance for survival. Fish scales are an adaptation to their environment.

Blooms Level: 2. Understand
Learning Outcome: 01.01.03 Summarize how the terms homeostasis, metabolism, development, and adaptation all relate to living organisms.
Section: 01.01
Topic: Levels of Biological Organization

15. The domain Eukarya contains _____ kingdom(s).
- A. one
 - B. two
 - C. three
 - D. four**
 - E. five

The four kingdoms in domain Eukarya include: plants, fungi, animals, and protists.

Blooms Level: 1. Remember
Learning Outcome: 01.02.01 Summarize the place of humans in the overall classification of living organisms.
Section: 01.02
Topic: Eukarya

16. Traditions, beliefs, and values are considered what aspect of human life?
- A. communicative
 - B. cultural**
 - C. instructional
 - D. biological
 - E. chemical

Cultural activities of humans include traditions, beliefs, and values.

Blooms Level: 2. Understand
Learning Outcome: 01.02.02 Understand that humans have a cultural heritage.
Section: 01.02
Topic: Humans and Life

17. The cell you are examining under the microscope appears to contain a nucleus. This organism belongs to the domain
- A. Bacteria.
 - B. Archaea.
 - C. Eukarya.**
 - D. Animalia.
 - E. Fungi.

Only domain Eukarya contains organisms that contain a nucleus. Animalia and Fungi are both kingdoms within the domain Eukarya.

Blooms Level: 2. Understand
Learning Outcome: 01.02.01 Summarize the place of humans in the overall classification of living organisms.
Section: 01.02
Topic: Eukarya

18. Which organisms are most closely related to humans?
- A. spiders
 - B. earthworms**

- C. parakeets
- D. meerkats**
- E. snakes

All of these are animals. Only snakes, parakeets, and meerkats are vertebrates. Only meerkats are mammals; therefore meerkats are most closely related to humans.

Blooms Level: 4. Analyze
Learning Outcome: 01.02.01 Summarize the place of humans in the overall classification of living organisms.
Section: 01.02
Topic: Humans and Life

19. Humans evolved from apes.

FALSE

Today's apes are our evolutionary cousins. Humans did not evolve from apes.

Blooms Level: 2. Understand
Learning Outcome: 01.02.01 Summarize the place of humans in the overall classification of living organisms.
Section: 01.02
Topic: Humans and Life

20. Only humans have a language that allows for the communication of information and experiences symbolically.

TRUE

Humans are the only animals with this capacity.

Blooms Level: 1. Remember
Learning Outcome: 01.02.02 Understand that humans have a cultural heritage.
Section: 01.02
Topic: Humans and Life

21. Humans clear forests to grow crops, and they build houses and cities. What are these an example of?

- A. how humans modify the biosphere**
- B. how humans preserve ecosystems
- C. the high value humans place on biodiversity
- D. the positive impact of humans on life on Earth
- E. how humans do not need the rest of life on Earth

These are examples of how humans modify the biosphere, often to their own detriment.

Blooms Level: 3. Apply
Learning Outcome: 01.02.03 Describe the relationship between humans and the biosphere.
Section: 01.02
Topic: Humans and Life

22. Humans are part of the biosphere and must live in harmony with it if we are to survive as a species.

TRUE

All living things on Earth are part of the biosphere. We are dependent on the rest of the biosphere and must preserve it.

Blooms Level: 2. Understand
Learning Outcome: 01.02.03 Describe the relationship between humans and the biosphere.
Section: 01.02
Topic: Humans and Life

23. _____ observations are supported by factual information, while _____ observations involve personal judgment.

- A. Subjective; analytical**
- B. Objective; analytical**

- C. Objective; subjective
- D. Objective; hypothetical
- E. Subjective; theoretical

Objective observations are supported by factual information, while subjective observations involve personal judgment.

Blooms Level: 1. Remember
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Process of Science

24. Which of the following statements is an objective observation?

- A. This milk tastes funny.
- B. This package is larger than that one.**
- C. I like this picture.
- D. This mattress feels hard to me.
- E. I think I am going to be sick.

Only the observation that one package is larger than another is objective—it can be measured. The rest of the statements rely on personal opinion.

Blooms Level: 4. Analyze
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Process of Science

25. What is the unifying principle of the biological sciences?

- A. technology
- B. anatomy
- C. biochemistry
- D. taxonomy
- E. evolution**

The unifying principle of the biological sciences is evolution.

Blooms Level: 1. Remember
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Process of Science

26. Where on a graph can you find the information that the graph pertains to?

- A. The x-axis only.
- B. The y-axis only.
- C. The dot points that are connected by the lines of the graph.
- D. The top of each bar in a bar graph.
- E. The x-axis and y-axis.**

Both the x- and y-axis of the graph contains information about what the graph pertains to. The top of the bar in bar graphs will not contain any information.

Blooms Level: 2. Understand
Learning Outcome: 01.03.04 Interpret information that is presented in a scientific graph.
Section: 01.03
Topic: Process of Science

27. The tentative explanation to be tested is called

- A. a theory.
- B. a hunch.
- C. a hypothesis.**
- D. the data.
- E. the conclusion.

A hypothesis is a tentative explanation to be tested.

28. Line graphs are used to depict the relationship between two quantities.

TRUE

True, line graphs are used to depict the relationship between two quantities.

Blooms Level: 1. Remember
Learning Outcome: 01.03.04 Interpret information that is presented in a scientific graph.
Section: 01.03
Topic: Process of Science

29. The information collected during the experiment or observation is called

- A. a theory.
- B. a hunch.
- C. the hypothesis.
- D. the data.**
- E. the conclusion.

Data includes the information collected during the experiment or an observation.

Blooms Level: 1. Remember
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Process of Science

30. The general public needs to have an understanding of science in order to make informed decisions about the future of our species.

TRUE

True, the general public needs to have an understanding of science in order to make informed decisions about the future of humans and our world.

Blooms Level: 2. Understand
Learning Outcome: 01.04.02 Summarize some of the major challenges facing science.
Section: 01.04
Topic: Process of Science

31. Which of the following is not a basic theory of biology?

- A. theory of ecosystems
- B. cell theory
- C. gene theory
- D. theory of evolution
- E. theory of gravity**

The theory of gravity is not a biological theory. The law of gravity is found in physics.

Blooms Level: 1. Remember
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Scientific Method

32. The cause of stomach ulcers appears to be

- A. excess stomach acid.
- B. the bacterium *Helicobacter pylori*.**
- C. drinking too much coffee.
- D. extreme stress.

E. diets rich in meat products.

The bacterium *Helicobacter pylori* is a major contributor to stomach ulcers.

Blooms Level: 1. Remember
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Bacteria
Topic: Experimental Design

33. Which of the following statements is a hypothesis?

- A. If a student buys a meal plan, he or she will eat more vegetables.
- B. Ginny gained 5 lbs her freshman year.
- C. Blake failed the test.
- D. There are more calories in french fries than in colas.
- E. I like my biology class better than my other classes.

If/then statements are often hypotheses. The other statements do not propose something that can be tested.

Blooms Level: 5. Evaluate
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Scientific Method

34. A controlled study in which neither the patient nor the examiner is aware of whether the patient is receiving a treatment, is called a(n)

- A. statistical study.
- B. double-blind study.
- C. variable study.
- D. adaptive study.
- E. blind study.

In a double-blind study, neither the patient nor the examiner is aware of whether the patient is receiving a treatment.

Blooms Level: 1. Remember
Learning Outcome: 01.03.02 Distinguish between a control group and an experimental group in a scientific test.
Section: 01.03
Topic: Experimental Design

35. In an experiment designed to test the effect of temperature on goldfish respiration, the temperatures that were changed represent what type of variable?

- A. control
- B. responding
- C. experimental
- D. correlative
- E. placebo

The temperatures are being changed by the researchers and are called the experimental variables.

Blooms Level: 2. Understand
Learning Outcome: 01.03.02 Distinguish between a control group and an experimental group in a scientific test.
Section: 01.03
Topic: Experimental Design

36. If the control group in an experiment shows the same results as the test group, the treatment was successful.

FALSE

If the control and test group show the same results, the treatment has no effect.

Blooms Level: 2. Understand
Learning Outcome: 01.03.02 Distinguish between a control group and an experimental group in a scientific test.
Section: 01.03
Topic: Experimental Design

37. To make all subjects think they are receiving the same treatment, patients in the control group can receive a placebo.

TRUE

A placebo is a treatment that appears to be the same as that administered to the test group but contains no medication.

Blooms Level: 1. Remember
Learning Outcome: 01.03.02 Distinguish between a control group and an experimental group in a scientific test.
Section: 01.03
Topic: Experimental Design

38. One of the difficulties with publication of research in scientific journals is that it

- A. is technical and may be difficult for a layperson to read.
- B. is often out of context or misunderstood.
- C. is unverified and usually not referenced.
- D. displays bias.
- E. is designed to convince readers to purchase a product.

Scientific journals are often technical and difficult to read and understand for those outside of the field.

Blooms Level: 2. Understand
Learning Outcome: 01.03.03 Recognize the importance of scientific journals in the reporting of scientific information.
Section: 01.03
Topic: Process of Science

39. Which of the following URLs would you most distrust in writing a scientific paper?

- A. .com
- B. .gov
- C. .edu
- D. .org
- E. Both .edu and .gov

URLs that end in .com often represent companies that are intending to sell you a product and may not present trustworthy information.

Blooms Level: 1. Remember
Learning Outcome: 01.03.03 Recognize the importance of scientific journals in the reporting of scientific information.
Section: 01.03
Topic: Process of Science

40. An important part of scientific research is repeatability.

TRUE

Another scientist should be able to repeat the experiment in a different location and get the same, or very similar, results.

Blooms Level: 2. Understand
Learning Outcome: 01.03.03 Recognize the importance of scientific journals in the reporting of scientific information.
Section: 01.03
Topic: Experimental Design

41. The standard error tells

- A. how often the examiner made an error.
- B. how often the experimental variable was tested.
- C. the relationship between the control and test groups.
- D. whether or not the research has been published in a scientific journal.
- E. how uncertain a particular value is.

The standard error is a statistical term that tells how uncertain a particular value is.

Blooms Level: 1. Remember
Learning Outcome: 01.03.05 Recognize the importance of statistical analysis to the study of science.
Section: 01.03
Topic: Process of Science

42. A probability value of less than 5% in a scientific study is acceptable.
TRUE

This is acceptable, but keep in mind that the lower the p value, the less likely that results are due to chance.

Blooms Level: 1. Remember
Learning Outcome: 01.03.05 Recognize the importance of statistical analysis to the study of science.
Section: 01.03
Topic: Process of Science

43. Which of the following is an example of correlation without causation?

- A. HPV can cause cervical cancer.
- B. Illegal drug use causes an increase in crime.
- C. *Helicobacter pylori* can cause ulcers.
- D. People who commit crimes also consume bread.**
- E. Parents have children.

Many people consume bread and consuming bread does not make you commit crimes.

Blooms Level: 4. Analyze
Learning Outcome: 01.03.05 Recognize the importance of statistical analysis to the study of science.
Section: 01.03
Topic: Process of Science

44. In a graph, the experimental variable is plotted on the

- A. x-axis.**
- B. y-axis.
- C. x- and y-axis.
- D. z-axis.
- E. x- and z-axis.

The experimental variable is plotted on the x- or horizontal axis.

Blooms Level: 1. Remember
Learning Outcome: 01.03.04 Interpret information that is presented in a scientific graph.
Section: 01.04
Topic: Experimental Design

45. Choose the following interest group that should be held most responsible for the future roles of new scientific technologies.

- A. scientists
- B. politicians
- C. clergy
- D. educators
- E. everyone**

Everyone should be held responsible for the future roles of new scientific technologies.

Blooms Level: 2. Understand
Learning Outcome: 01.04.02 Summarize some of the major challenges facing science.
Section: 01.04
Topic: Process of Science

46. In conducting a review of the literature on the Internet, which of the following sources would be the least reliable?

- A. The Centers of Disease Control
- B. The Cystic Fibrosis Foundation

- C. The National Institute of Health
- D. The Pasteur Institute
- E. Astrology and Medicine

The source Astrology and Medicine would be the least reliable.

Blooms Level: 5. Evaluate
Learning Outcome: 01.03.03 Recognize the importance of scientific journals in the reporting of scientific information.
Section: 01.03
Topic: Process of Science

47. After studying biology, it is hoped that you will
- A. become an animal rights activist.
 - B. be better able to make wise decisions regarding your own well-being and the Earth's.**
 - C. get a high paying job as a biologist.
 - D. understand all there is to know about humans and biology.
 - E. dislike anything to do with biology.

After studying biology, it is hoped that you will be better able to make wise decisions regarding your own well-being and the Earth's.

Blooms Level: 3. Apply
Learning Outcome: 01.04.02 Summarize some of the major challenges facing science.
Section: 01.04
Topic: Process of Science

48. Technology is the application of scientific knowledge to the interests of humans.

TRUE

Technology, the application of scientific knowledge, offers us ways to improve our lives.

Blooms Level: 1. Remember
Learning Outcome: 01.04.01 Distinguish between science and technology.
Section: 01.04
Topic: Process of Science

49. Scientists who have a financial stake in a company are now required to state that when they do research. This is an example of
- A. ethics in science.**
 - B. financial planning.
 - C. a new business model.
 - D. a biotechnology revolution.
 - E. statistical significance.

A scientist who has a vested interest in the success of a product may not be honest in evaluating that product. This is an example of ethics in science.

Blooms Level: 3. Apply
Learning Outcome: 01.04.02 Summarize some of the major challenges facing science.
Section: 01.04
Topic: Process of Science

50. Which of the following statements best explains the atomic bomb and the benefit of nuclear physics to cancer therapy?
- A. Science and technology are not risk free.**
 - B. Science and technology are wrong.
 - C. Science and technology are good for mankind.
 - D. Science and technology are value-neutral.
 - E. Science and technology always provide value to people.

There are often risks and benefits to science and technology.

51. List the four kingdoms of life that are classified under the domain Eukarya and indicate the key features of each.

Kingdom Protista: Complex single-celled organisms, sometimes filaments, colonies, or even multicellular.

Absorb, photosynthesize, and ingest food.

Kingdom Fungi: Mostly multicellular filaments with specialized, complex cells. Absorb food.

Kingdom Plantae: Multicellular, usually with specialized tissues, containing complex cells, photosynthesize.

Kingdom Animalia: Multicellular with specialized tissues containing complex cells. Ingest cells.

Blooms Level: 6. Create
Learning Outcome: 01.02.01 Summarize the place of humans in the overall classification of living organisms.
Section: 01.02
Topic: Eukarya

52. List the characteristics that are common to all living organisms.

Organisms are organized. They have the ability to acquire materials and energy. They can reproduce and grow. Organisms have an evolutionary history.

Blooms Level: 6. Create
Learning Outcome: 01.01.01 Explain the basic characteristics that are common to all living organisms.
Section: 01.01
Topic: Levels of Biological Organization

53. Describe the steps associated with the scientific method.

Observation: New observations are made and previous data are studied.

Hypothesis: Input from various sources is used to formulate a testable statement.

Experiment/Observation: The hypothesis is tested by experiment or further observations.

Conclusion: The results are analyzed, and the hypothesis is supported or rejected.

Scientific Theory: Many experiments and observations support a theory.

Blooms Level: 6. Create
Learning Outcome: 01.03.01 Describe the general process of the scientific method.
Section: 01.03
Topic: Scientific Method

Chapter 01: Testbank Summary

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