

01 - Living In a World of Chemistry

1. Which activity comes first in the scientific method?

- a. conclusion
- b. hypothesis
- c. experimentation
- d. observation

ANSWER:

d

2. Which is considered a physical science?

- a. physics
- b. biology
- c. zoology
- d. botany

ANSWER:

a

3. A scientist is trying to make a new insecticide that will be more toxic to flies, but less toxic to humans than insecticides now available. The scientist is engaged in

- a. basic research.
- b. applied research.
- c. technology.
- d. serendipity.

ANSWER:

b

4. Which technology described in this chapter required the most time from idea to use?

- a. photography
- b. nylon
- c. roll-on deodorant
- d. X-rays in medicine

ANSWER:

d

5. The discovery of Teflon® was

- a. an example of planned research.
- b. accidental
- c. eventually damaging to the ozone layer.
- d. deemed useless by the discoverer's company.

ANSWER:

b

6. Which of the following are linked to the release of CFCs?

- a. "ozone holes" in the stratosphere
- b. increased air pollution
- c. drinking water pollution
- d. increased food spoilage

ANSWER:

a

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7. An endeavor to provide an "ample margin of safety" to protect the public is an example of a

- a. technology-based law.
- b. balancing law.
- c. risk management.
- d. risk-based laws.

ANSWER:

a

8. What is the approximate population of the world?

- a. 6,000,000 people
- b. about 3 billion people
- c. over 6,000,000,000 people
- d. 2,000,000 people

ANSWER:

c

9. Chemistry is often defined as the study of

- a. matter and the changes it can undergo.
- b. naturally occurring matter.
- c. fundamental particles in research labs.
- d. synthetically produced matter.

ANSWER:

a

10. Refrigeration has been used since the late 1800s and early refrigerants were

- a. safe.
- b. flammable and toxic.
- c. inert.
- d. fluorine compounds, CFCs.

ANSWER:

b

11. The map of the complete human DNA sequence was

- a. completed in 1990.
- b. done exclusively in not-for-profit research labs.
- c. completed exclusively in for-profit research labs.
- d. completed in 2003.

ANSWER:

d

12. Which of the following explorations could be enhanced by our knowledge of DNA?

- a. development of drug to cure cancer
- b. use of genetically modified food to produce edible vaccines
- c. determine if a convicted felon is actually innocent
- d. all of these

ANSWER:

d

13. Which is considered a fossil fuel?

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- a. coal
- b. solar
- c. wind
- d. hydrothermal

ANSWER:

a

14. The smallest concentration listed below is

- a. parts per million.
- b. parts per trillion.
- c. parts per billion.
- d. parts per thousand.

ANSWER:

b

15. What is chemophobia?

- a. fear of chemistry courses
- b. fear of global warming
- c. fear of chemicals
- d. fear of radiation

ANSWER:

c

Answer the following in reference to the 2003 HCRA publication *Risk in Perception*.

16. Natural risks seem less worrisome than human-made risks.

- a. True
- b. False

ANSWER:

True

17. The American perception of "It can't happen to me." or "It can't happen here." changed in 2001.

- a. True
- b. False

ANSWER:

True

18. The perception of the severity of a risk escalates with time.

- a. True
- b. False

ANSWER:

False

Use the following terms to answer the questions given below.

- a. basic research
- b. applied research
- c. natural science
- d. social science
- e. technology

Name _____ Class _____ Date _____
: _____ : _____ e: _____

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19. What is the term applied to scientific research that is oriented toward an immediate, practical goal?

ANSWER: b

20. What is the term applied to scientific research that has no immediate, practical goal?

ANSWER: a

21. What term would be applied to expanding the number of methods to produce marketable medicines based on DNA manipulation?

ANSWER: e