

Student: _____

1. The life span for humans is:
 - A. 75-85 years
 - B. 85-95 years
 - C. 95-105 years
 - D. 105-115 years
 - E. 115-120 years
2. Which of these characteristics is common among centenarians?
 - A. they have elderly family members
 - B. they have lower rates of diseases
 - C. they live independently
 - D. a and b
 - E. all of the above
3. Antioxidants, such as vitamins E and C, are thought to increase longevity by:
 - A. scavenging free radicals
 - B. decreasing metabolic rate, thereby lowering body temperature
 - C. increasing RNA production
 - D. all of the above
 - E. a and c
4. Which of the following affects life expectancy?
 - A. marital status
 - B. air pollution
 - C. ethnicity
 - D. all of the above
 - E. a and c
5. What factor has the highest influence on longevity?
 - A. gender
 - B. ethnicity
 - C. income
 - D. educational level
 - E. b and c equally
6. Which of the following directs the function of the cell?
 - A. mitosis
 - B. telomeres
 - C. nucleus
 - D. genes
 - E. neurons
7. Life expectancy
 - A. varies among cultures
 - B. is about 115-120 years
 - C. continues to increase in the U.S.
 - D. a and c
 - E. all of the above

8. The most important health habit to increase life expectancy is:
 - A. not smoke cigarettes
 - B. exercise regularly
 - C. eat well
 - D. all are equally effective
 - E. b and c
9. Telomeres are the caps at the end of chromosomes like the tips at the end of shoestrings.
True False
10. Each cell is specialized for a specific function, but all cells are nearly identical genetically.
True False
11. Human life expectancy is relatively constant across history and culture at 115-120 years.
True False
12. Most factors associated with longevity are under personal control.
True False
13. Light drinkers live longer than those who abstain from alcohol altogether.
True False
14. It is generally agreed that racial differences in life expectancy are due primarily to genetic factors.
True False
15. Reducing caloric intake without restricting nutrition increases the length of life in laboratory animals.
True False
16. Thus far, there is no evidence that periodic fasting prolongs life in humans.
True False
17. Those who are married live longer than those who are not.
True False
18. Normal cells grown in the laboratory do not age, but divide indefinitely.
True False
19. No life extension therapy has been documented to succeed with human subjects.
True False
20. It is hypothesized that females have a genetic advantage that enables them to live longer than males in almost all animal species.
True False
21. Human growth hormone injections are now known to reverse age-related decline.
True False
22. One theory of aging is that it is caused by an accumulation of damage to cell DNA caused by reactive by-products of cell metabolism.
True False
23. Scientists generally agree that the basic cause of aging is the result of a series of random accidental events that damage body cells.
True False
24. Genes are composed of chromosomes.
True False
25. DHEA is a hormone made by the body that increases with age.
True False

26. Many well designed studies confirm the anti-aging effects of DHEA.
True False
27. Shorter people live longer than taller people.
True False
28. Most cells that become damaged cannot repair themselves.
True False
29. Describe the difference between life span and life expectancy. Which one can individuals influence?
Explain how the life expectancy of a 65 year old person is greater than that of a newborn.
30. List three reasons why women typically live longer than men.
31. Name five factors that influence longevity. Which influences are under our control?
32. How does race and ethnicity affect life expectancy in the United States?
33. What is the "compression of morbidity" and why is it desirable?

34. Give a brief example about how you might scientifically gather information about longevity.

35. Describe the drawbacks of each of the following types of studies on longevity:

36. How could the "accumulation of errors" influence aging?

37. What is the difference between random aging and programmed aging?

38. What are telomeres and how might they affect the rate at which we age?

39. List the factors in the physical environment which may affect length of life.

40. What are antioxidants and why are they important? How might they affect the aging process?
41. Discuss why those who are married tend to live longer than those who are not. What are some problems in studying this connection?
42. List the possible reasons why obesity increases the risk of premature death.
43. List reasons why people in the middle and upper income level live longer than those of low income.
44. Why might race and ethnicity influence life expectancy?
45. What are some reasons why women have a longer life expectancy than men?

46. What is the biological clock theory? What is the evidence for this theory?
47. There are two major theories of why our bodies deteriorate with age: random and programmed. Describe the possible mechanisms of each.
48. Discuss at least five factors which affect the length of life.
49. Some believe the quest to prolong life in the laboratory is misplaced. Instead, they say, scientists should work on ways to modify those factors which affect disease onset. Do you agree or disagree? Write an essay to defend your position.
50. Describe and discuss the results of the New England Centenarian Study
51. Random aging includes several theories: cross-linking, wear and tear, free radical. Argue in support of one of those theories.

52. Describe the genetic and behavioral hypotheses advanced to explain why women live longer than men.
53. Programmed aging may be initiated by immune or hormonal systems. Discuss each of these.
54. Discuss the benefits and drawbacks of animal studies to determine the factors influencing longevity.

ch02 Key

1. E
2. E
3. A
4. D
5. A
6. D
7. D
8. A
9. TRUE
10. TRUE
11. FALSE
12. TRUE
13. TRUE
14. FALSE
15. TRUE
16. TRUE
17. TRUE
18. FALSE
19. TRUE
20. TRUE
21. FALSE
22. TRUE
23. FALSE
24. FALSE
25. FALSE
26. FALSE
27. TRUE
28. FALSE
29. Answers will vary
30. Answers will vary
31. Answers will vary
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45. Answers will vary
46. Answers will vary
47. Answers will vary
48. Answers will vary
49. Answers will vary
50. Answers will vary
51. Answers will vary
52. Answers will vary
53. Answers will vary
54. Answers will vary

ch02 Summary

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