

1. What two things are important to the health of an organism? \_\_\_\_\_

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2. What does the book compare starting the cycle to?

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3. What is the abbreviation for cyclin-dependent kinases?

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4. What four cyclin/CDK combinations are shown in Figure 9.11?

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5. What does the stoplight mean in Figure 9.11?

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6. What signals the start of the cell cycle in G1 of interphase?

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7. What does a checkpoint check for near the end of the G1 stage? \_\_\_\_\_

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8. What happens if the spindle fibers fail their checkpoint?

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9. Define cancer:

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10. How can cancer cells kill an organism?

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11. What stage do cancer cells spend less time in than normal cells?

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12. According to Figure 9.12, how can a medical professional find a detect a cancer cell? \_\_\_\_\_

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13. Which kind of organisms does cancer NOT occur in?

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14. The changes that occur in the regulation of cell growth of cancer cells are due to what? \_\_\_\_\_

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15. What happens when a repair system fails?

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16. Define carcinogen:

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17. What is the name of the agency that monitors carcinogens in our food?

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18. What chemical has been removed from old buildings to prevent cancer?

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19. Why is sunscreen recommended for everyone exposed to the Sun? \_\_\_\_\_

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20. Why does the risk of cancer increase with age?

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21. Why might cancer run in families?

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22. What is apoptosis?

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23. Describe an example of apoptosis in animal cells:

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24. Where do we see apoptosis in the fall?

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25. What is a stem cell?

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26. What are the two types of stem cells?

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27. Once an egg is fertilized, approximately how many cells result? \_\_\_\_\_

28. What did researchers do with adult stem cells in 1999?

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29. What did researchers do with adult stem cells in 2000?

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30. Why are adult stem cells less controversial than embryonic stem cells? \_\_\_\_\_

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