Answer Key

Directed Reading A

SECTIONL: EXCHANGE WITH THE ENVIRONMENT

1. This movement of materials helps keep cells healthy so they can divide. Cell division then allows organisms to grow and repair injuries.
2. diffusion
3. water
4. molecules
5. osmosis
6. Water particles move to where they arel less concentrated.
7. because it helps maintain a balance within the cell of all the concentrated particles
8. The water will move out of the cells to where water molecules are less concentrted in the salty solution. The cells will shrivel up.
9. Through the process of osmosis, water moves into the plant cells, which makes the plant firm again.
10. C
11. A
12. B
13. D
14. E
15. proteins
16. endocytosis
17. The cell surrounds a large particle and encloses it in a vesicle to bring the particle into the cell.
18. exocytosis
19. The cell forms a vesicle around the large particle and carries the particle to the cell members. The vesicle fuses with the membrance and releases the particle outside the cell.
20. C, A, B
21. B, A, C

SECTION: CELL ENERGY

1. so that organisms and their cells can live, grow, and reproduce
2. the sum
3. by breaking down food
4. D
5. photosythesis
6. pigments
7. chlorophyll
8. a simple sugar or carbohydrate
9. Glucose is a plant's "food."
10. glucose, oxygen
11. cellular respiration
12. fermentation
13. Breathing allows many organisms to take in oxygen and get rid of CO_2. The oxygen supplied to the cells helps them perform cellular respiration.
14. Food, such as glucose, is broken down into CO_2, and engery is released
15. My body uses the energy released during cellular respiration to maintain my tempoerature. ATP, which supplies energy to fuel all cell activities, is also formed.
16. energy
17. mitochondria
18. In cellular respiration, cells use oxygen to break down glucose and release CO_2,H_2O, and energy.
19. When I exercise strenuously, my muscles don't receive enough oxygen for cellular respiration. the muscle cells then use the process of fermentation to get energy. Fermentation produces lactic acid, which contributes to muscle fatigue.
20. Another type of fermentation occurs in some types of bacteria and in yeasts.
21. Yeast forms carbon dioxide (CO_2) during fermentation. The buddles of carbon dioxide gas cause the dough to rise.
22. D
23. F
24. B
25. C
26. A
27. E

SECTION THE CELL CYCLE

1. It is important for your body to produce millions of new cells because this allows you to grow and replace cells thta have died.

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2. A
3. B
4. Before it divides, a cell must make a copy of its deoxyribonucleic acid (DNA).
5. the copying of chromosomes
6. prokaryotic
7. eukaryotic
8. prokaryotic
9. eukaryotic
10. prokaryotic
11. binary fission
12. DNA
13. DNA
14. 46, 8, 48
15. homologous chromosomes
16. Homologous chromosomes have the same sequence of genes and the same structure.
17. organelles, chromosomes
18. chromatids
19. Chromatids are held together at a region called the centromere.
20. mitosis
21. The cell grows and copies its organelles and chromosomes. The chromosomes split into copies called chromatids.The chromatids twist into an X shape.
22. During the second stage of the cell cycle, the chromatids come apart. This separation is called mitosis.
23. During the third stage of the cell cycle, the cell divides into two cells that are identical to each other and to the original cell.
24. B
25. Mitosis Phase 3
26. Mitosis Phase 2
27. Interphase
28. Mitosis Phase 4
29. Mitosis Phase 1
30. Cytokinesis
31. In eukaryotic cells that do not have cell walls, the cell membrane pinches inward until it divides the cytoplasm and splits the cell in two.
32. 3
33. 1
34. 2

Directed Reading B

SECTION : EXCHANGE WITH THE ENVIRONMENT

1. energy and raw materials
2. cell membrane
3. healthy
4. wastes
5. D
6. C
7. A
8. C
9. D
10. A
11. B
12. D
13. C
14. B
15. B
16. A
17. B
18. B
19. B
20. A

SECTION: CELL ENERGY

1. sun
2. food
3. reproduce
4. the sun
5. food
6. photosynthesis
7. energy
8. C
9. B
10. cellular respiration
11. fermentation
12. D
13. C
14. C
15. D
16. A
17. D
18. B
19. A
20. A
21. D
22. B

SECTION: THE CELL CYCLE

1. C
2. A
3. A
4. C
5. C
6. D
7. circular
8. binary fission
9. DNA
10. D
11. B
12. B
13. C
14. A
15. B
16. A
17. C
18. D
19. B
20. C
21. A
22. A

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