

- Energy is released when _____.
 - A phosphate is added to ADP at the last bond
 - A phosphate is added or released from ATP
 - A phosphate is released from ADP at the first bond
 - A phosphate is released from ATP at the last bond
- Which of the following is true of enzymes?
 - At low temperatures they will denaturing causing the rate of the reaction to decrease
 - They speed up chemical reactions by increasing activation energy
 - At high or low pH the enzyme will denature causing the rate of the reaction to increase
 - Inhibitors can bind to the enzyme and decrease the rate of the reaction
- There are times during metabolism when glucose is broken down to form energy. The breakdown of glucose, or any molecule, is known as _____.
 - Catabolism
 - Anabolism
 - Photosynthesis
 - Cellular respiration
- Which phrase best describes the effect of an enzyme on a chemical reaction?
 - decreases the activation energy
 - increases the temperature
 - decreases the reaction rate
 - increases the volume of reactants
- Which statement best describes the graph shown?

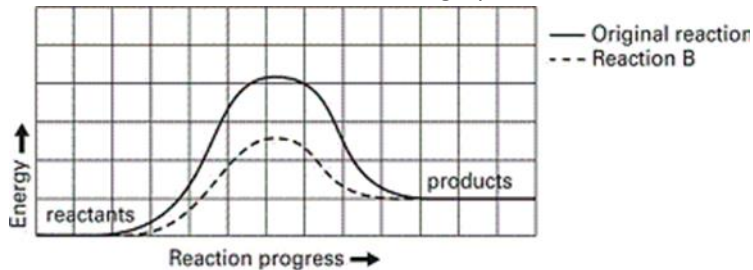


FIG. 2.5.1

- Reaction B occurs at a slower rate.
 - Reaction B has an enzyme
 - More energy is needed to start reaction B
 - More energy is released in the original reaction
- In aerobic respiration carbohydrates are ultimately broken down into:
 - Acetyl-CoA
 - CO₂
 - O₂
 - H₂O
 - Most ATP produced in aerobic respiration occurs in the process of:
 - Glycolysis
 - The Krebs cycle
 - Chemiosmosis
 - Substrate-level phosphorylation
 - In glycolysis the most reduced compound formed is:
 - Pyruvate
 - NAD⁺
 - Lactate
 - H₂O

9. In glycolysis, the activation of glucose is accomplished by:
- A. NADH
 - B. Coenzyme A
 - C. ATP
 - D. O₂
10. Products of the Krebs cycle include:
- A. CO₂, NADH, NADPH
 - B. NADH, FADH₂, CO₂
 - C. FADH₂, CO₂, NADPH
 - D. CO₂, NADPH, FADH
11. The final electron acceptor in aerobic respiration is:
- A. CO₂
 - B. O₂
 - C. H₂O
 - D. NAD⁺
12. In the presence of oxygen, all cells synthesize ATP via the process of glycolysis. Many cells also can metabolize pyruvate, if oxygen is not present, via the process of:
- A. Fermentation
 - B. Aerobic respiration
 - C. Oxidative phosphorylation
 - D. Photophosphorylation
13. The net result of the breakdown of glucose in glycolysis and fermentation is the production of:
- A. 38 ATP
 - B. 2 ATP
 - C. NADH
 - D. NADH, FADH₂, and ATP
14. Which stage of aerobic respiration requires ATP?
- A. Glycolysis
 - B. Krebs cycle
 - C. Electron transport chain
 - D. Fermentation
15. Which stage of aerobic respiration requires CO₂?
- A. Glycolysis
 - B. Krebs cycle
 - C. Electron transport chain
 - D. None of the above
16. As protons flow through the _____, energy is released and exploited to combine ADP and inorganic phosphate to form ATP.
- A. Electron transport chain
 - B. Outer mitochondrial membrane
 - C. Cytochrome oxidase
 - D. ATP synthase
17. There are two kinds of seed plants: conifers and _____.
- A. angiosperms
 - B. nonvascular plants
 - C. mosses
 - D. gymnosperms
18. What are the three primary nutrients needed for plant growth?
- A. Calcium, sulfur, and magnesium
 - B. Nitrogen, phosphorus, and potassium
 - C. Zinc, boron, and copper
 - D. Iron, sodium, and phosphorus
19. Which part of a flowering plant will store carbohydrate as starch?
- A. flower
 - B. blade
 - C. stem
 - D. root

20. Which of the following comparisons between a monocot and a dicot is NOT correct?
- A. Monocot has one cotyledon in seed—Dicot has two cotyledons in seed
 - B. Monocot has vascular bundles scattered in stem-- Dicot has vascular bundles in a distinct ring
 - C. Monocot leaf veins form a net pattern— Dicot leaf veins form a parallel pattern
 - D. Monocot flower parts in threes and multiples of three—Dicot flower parts in fours or fives and multiples of four or five
21. Which of the following is true of the evolution of plants.
- A. Angiosperms evolved before Gymnosperms
 - B. Mosses are more advanced than Gymnosperms
 - C. Plants had to overcome the lack of moisture of living on land.
 - D. Plant reproduction relied solely on animals until they adapted to live on land.
22. Which of the following cells protect the inner body parts and prevent the plant from drying out?
- A. epidermal cells
 - B. parenchymal cell
 - C. sclerenchymal cell
 - D. sieve-tube cell
23. A plant that has small, green petals is most likely to be
- A. bee pollinated
 - B. bird pollinated
 - C. bat pollinated
 - D. wind pollinated
24. Mycorrhizae enhance plant nutrition mainly by
- A. absorbing water and minerals through the fungal hyphae.
 - B. providing sugar to the root cells, which have no chloroplasts of their own
 - C. converting atmospheric nitrogen to ammonia
 - D. enabling the roots to parasitize neighboring plants
25. Which of these characteristics is shared by algae and seed plants?
- A. embryo development within gametangia
 - B. roots and shoots
 - C. vascular tissue
 - D. chloroplasts

ANSWERS

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|------|-------|-------|
| 1. D | 10. B | 19. D |
| 2. D | 11. B | 20. C |
| 3. A | 12. A | 21. C |
| 4. A | 13. B | 22. A |
| 5. B | 14. A | 23. D |
| 6. B | 15. D | 24. A |
| 7. D | 16. D | 25. D |
| 8. A | 17. A | |
| 9. C | 18. B | |