

CHAPTER 6 - How Cells Harvest Chemical Energy

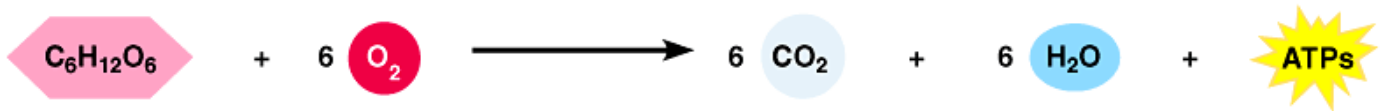
Chapter Reading Guide

REVIEW- Respond to the question below.

When looking at food labels, all fats are treated as though they contain the same number of calories. Based on what you learned about the structure of fats in Chapter 3 and cellular respiration in this chapter, do you support this view? Explain why or why not. **(Recall from the "Science of Fat" presentations that fats are energy-rich molecules because they contain many hydrogens; however, fats vary in the number of fatty acids they contain as well as in the length and degree of saturation of these fatty acids).**

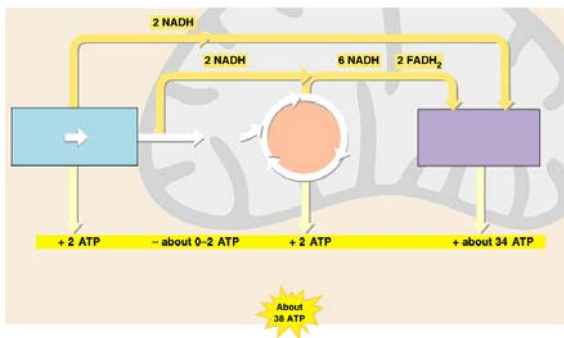
Reading Guide

1. Using the diagram dialogue technique, describe the overall chemical equation for cellular respiration. Compare the efficiency of this process in cells to the efficiency of a gasoline engine.

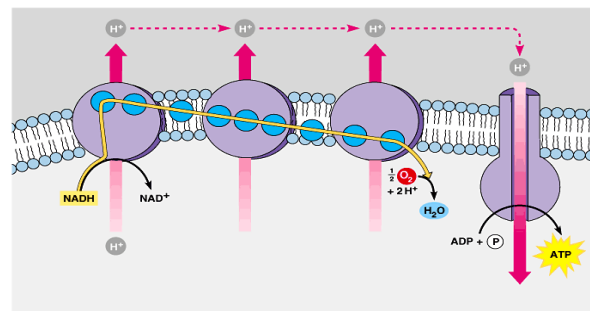


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2. Explain how the human body uses its daily supply of ATP.
3. Explain how the energy in a glucose molecule is released during cellular respiration.
4. Describe the roles of the electron transport chain and chemiosmosis in cellular respiration.
5. Compare the process of substrate-level phosphorylation to chemiosmosis.
6. Describe the cellular regions where glycolysis, the Krebs cycle, and the electron transport chain occur. Use diagrams 6.12 and 6.14 below in your discussion.



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