

## **OUTCOMES→ Chapter 9: Cellular Respiration**

By the end of your readings, labs and in class discussions you should be able to...

1. Explain how energy flows through the environment and chemicals recycle.
2. Identify cell respiration as a catabolic pathway, which provides cells with the energy to perform work.
3. Describe three types of work that a cell needs to perform.
4. Explain how redox reactions release energy.
5. Explain what is meant by the “fall of electrons” in cell respiration.
6. Discuss the role of coenzymes in cell respiration.
7. Identify and describe the molecule responsible for storing energy in cells, and explain how it is recycled.
8. Identify the three metabolic stages that make up cell respiration, and their purpose.
9. Distinguish between substrate-level phosphorylation and oxidative phosphorylation.
10. For glycolysis, Krebs and electron transport give:
  - main steps
  - what goes in
  - what comes out
  - energy yield
11. Explain how the mitochondrial double membrane couples electron transport to ATP synthesis (chemiosmosis)
12. Distinguish between aerobic and anaerobic respiration.
13. Describe alcohol fermentation and lactic acid fermentation.
14. Explain how feedback controls the rate of cell respiration and name one of the allosteric enzymes involved.