

## Respiration BMZ116B Study Guide

- To perform their many tasks, living cells require \_\_\_\_\_ from outside sources.
- Energy enters most ecosystems as \_\_\_\_\_ and leaves as \_\_\_\_\_.
- Photosynthesis generates \_\_\_\_\_ and \_\_\_\_\_ that the mitochondria of eukaryotes use as \_\_\_\_\_ for cellular respiration.
- Cells harvest the chemical energy stored in organic molecules and use it to regenerate \_\_\_\_\_, the molecule that drives most cellular work.
- Respiration has three key pathways: \_\_\_\_\_, the \_\_\_\_\_, and \_\_\_\_\_.

### A. The Principles of Energy Harvest

#### 1. Cellular respiration and fermentation are catabolic, energy-yielding pathways.

- The arrangement of atoms of organic molecules represents \_\_\_\_\_ energy.
- Enzymes \_\_\_\_\_ the systematic degradation of organic molecules that are rich in energy to simpler waste products with \_\_\_\_\_ energy.
- Some of the released energy is used to do \_\_\_\_\_; the rest is dissipated as \_\_\_\_\_.
- Catabolic metabolic pathways \_\_\_\_\_ the energy stored in complex organic molecules.
- One type of catabolic process, \_\_\_\_\_, leads to the partial degradation of sugars in the absence of oxygen.
- A more efficient and widespread catabolic process, \_\_\_\_\_, consumes \_\_\_\_\_ as a reactant to complete the breakdown of a variety of organic molecules.
  - In eukaryotic cells, \_\_\_\_\_ are the site \_\_\_\_\_.

		Lactic Acid Fermentation	