

**Molecular Biology
Cellular Respiration.**

Cellular respiration is the harvesting of energy from glucose. We would not be able to do any "work" if it were not for this process. The process is divided into three stages. The big picture of respiration looks like this:



Chapter 7 goes into **great detail** on this process. It would be easy to get too bogged down on all this detail. As you read through chapter 7 (Pages 138 – 147) answer the following questions and try not to get swamped by all the detail, just keep the big picture in mind and keep track of what is needed and what is produced at each step.

Glycolysis - Takes place in the _____ of the cell.

1. What chemicals are necessary for the beginning of glycolysis?
2. How many ATP molecules does it take to get started? _____
3. What is the H "carrier" in this stage? How many are made?
4. How many ATP molecules are made? _____ What is the net gain in energy? _____
5. What products leave this stage and continue on to another stage?
6. Sum up the three things accomplished during glycolysis:

The Krebs Cycle – Takes place in the _____ of the cell.

1. Where specifically in the organelles listed above does the Krebs Cycle occur?
2. Describe the transition step between glycolysis and the Krebs Cycle. What is the end result of this step?
3. What are the H "carrier" molecules in the Krebs cycle? How many of each are made? (Include the transition step)
4. How many ATP molecules are made?

...stment stage of glycolysis.
...ence between fermentation and aerobic cellular respiration?
...process, fermentation, is a partial degradation of sugars that
...the use of oxygen. However, the most prevalent and efficient
...as:

...the energy inv
7. What is the diffe
"One catabolic
occurs without
catabolic pathv