**Anatomy & Physiology  
Miss Ulmer  
ATP Sources Venn Diagram**

**Instructions:** For your Venn Diagram, use all the bold words from the word bank. There may be extra words around it that are not bolded that are there to help you understand the context of the word. You only have to write the bolded ones. Do is much as you can WITHOUT referencing your notes/the textbook, then you may use other resources. When you are finished, complete the questions at the bottom of the page (you may use your textbook for these)

**Word bank:**

**Requires O2**

**Synthesizes ATP**

Makes only **1 ATP** per reaction

Makes only **2 ATP** per reaction

Produces **lactic acid** as a **byproduct**

**Breaks down glucose**

**Does not require O2**

Makes **32 ATP** per reaction

Produces **CO2 byproduct**

Can provide **ATP for hours** when provided enough reactants

Can provide ATP only for about **15 seconds**

Can provide ATP for about 40 seconds

Happens in **mitochondria**

**Only in muscle fibers,** not any other cell type

**Questions:**

1. Which process is the most efficient use of glucose?
2. Which Process takes the longest?
3. Which process will your body use all the time if not overtaxed?
4. Which processes are the “back-up” plans to be used when the muscles are overtaxed?
5. Why is it important to have a variety of ways for the body to supply ATP to the muscle fibers?