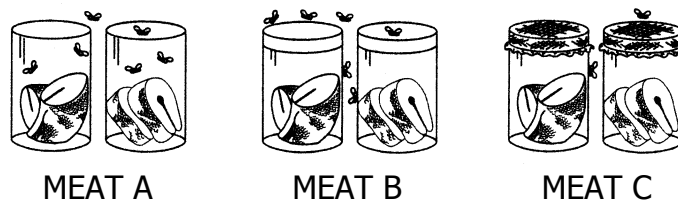


HONORS BIOLOGY – PROBLEM SET

CHAPTER 15b: TRACING EVOLUTIONARY HISTORY

- The symbiotic theory explains how prokaryotic cells evolved into eukaryotic cells. The basic idea of the theory is the nucleus, mitochondrion, and (in some cases) chloroplast moved inside a larger cell. In a paragraph, discuss what each of those three contributed to the larger cell. Then state what the larger cell provided to each of the three smaller cells. [3 points]
- Francesco Redi was a scientist who believed that spontaneous generation cannot happen. He performed experiments to prove that maggots come from eggs, not from raw meat. In each of the three pictures, state whether or not (YES or NO) maggots will form on the raw meat. Provide a one-sentence explanation for each one. [3 points]



- The diagram below (FIGURE 1) summarizes Pasteur’s experiments. Describe the process Pasteur used to disprove spontaneous generation. Include a discussion of a control group and an experimental group. [2 points]
- The diagram below (FIGURE 2) summarizes the Miller-Urey experiment. State the purpose of the experiment. Then discuss the procedure that he followed. Finally, state the results of the experiment. In your response, include a reason why this experiment was so important to our understanding of the origin of life on Earth. [2 points]

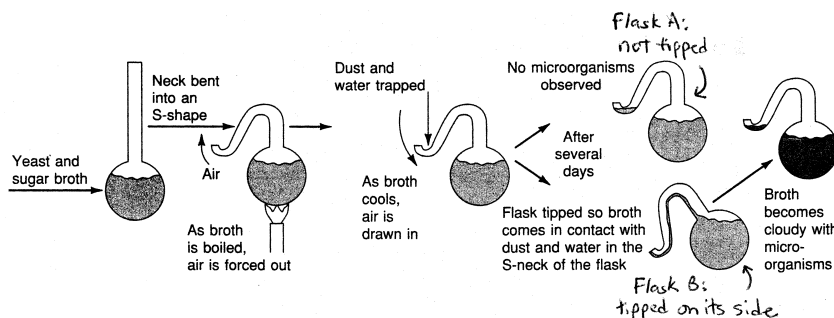


FIGURE 1

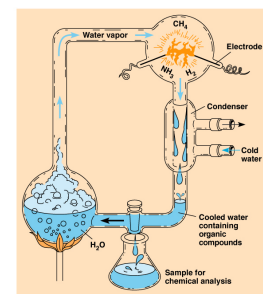


FIGURE 2