Learning Objective – Describe the membrane-bound structures of the eukaryotic cell.
Learning Objective – I can explain how internal membrane and membrane-bound organelles contribute to compartmentalization of eukaryotic cell functions.

AP Biology Topic 2.10 – Cell Compartmentalization

1. Cells have a that allow them to establish and environments that are different from their .

2. have additional internal membranes and that compartmentalize the cell.

3. What do cellular compartments allow to happen?

Cellular Components: Lysosomes

4. What do membranes do to competing interactions?

5. The hydrolytic enzymes of the lysosome function at an .

6. How does having compartmentalization help the lysosome?

7. What would happen if the membranes of the lysosome were damaged?

Cellular Components: Mitochondria

8. How does membrane folding help the mitochondria?

9. occur in the inner mitochondrial membrane.

10. What does folding of the inner membrane do for the mitochondria?

Cellular Components: Chloroplasts

11. Membrane folding

12. What does membrane folding do for the thylakoid compartments?

AP Practice Question

Some viral infections can lead to the rupture of the lysosome membrane. Which prediction of the effect of this disruption of cellular compartmentalization is most likely correct

A. Enzymes will be released that will specifically target the virus.

B. Cellular osmotic concentrations will change, preventing viral entry into the cell.

C. Hydrolytic enyzmes will be released, which will cause cell death.

D. Intracellular digestion of organic materials will increase, which will increase the energy available to the cell for fighting the virus.

Explain your answer choice:

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