

Review Sheet: A Tour of the Cell
Chapter 4

I. Introduction to the Cell

1. Define cell theory
2. Explain why there are upper and lower limits to cell size
3. Distinguish between the structures of prokaryotic and eukaryotic cells.
4. Explain why compartmentalization is important in eukaryotic cells.
5. Compare the structures of plant and animal cells. Note the function of each cell organelle.

II. Organelles of the Endomembrane System

1. Describe the structure and functions of the nucleus, endomembrane system, smooth and rough ER, Golgi apparatus, lysosomes and vacuoles.
2. Trace the path of a protein from its manufacturing site to its export outside the cell.

III. Energy-Converting Organelles

1. Compare the structures and functions of chloroplasts and mitochondria.

IV. The Cytoskeleton and Related Structures

1. Compare the structures and functions of microfilaments, intermediate filaments, and microtubules.
2. Explain how the structure of cilia and flagella relate to their functions.

V. Cell Surfaces and Junctions

1. Compare the structures and functions of cell surfaces and intercellular junctions of plant and animal cells.