

## AP Biology Worksheet –Cell Tour

- All organisms are made of \_\_\_\_\_. Though many organisms are single-celled, the cell is the basic unit of \_\_\_\_\_ and function. All cells are related by their \_\_\_\_\_ from earlier cells.
- Magnification** is the ratio of an object's image \_\_\_\_\_.
- Resolving power** is a measure of image \_\_\_\_\_.
- What is the major purpose of using an transmission electron microscope vs a scanning electron microscope? How are the specimens viewed with these two microscopes different than using a light microscope?

5. Define cytology and explain the purpose of cell fractionation.

6. Give a description of the following organelles and their function:

Structure	Description	Function	Plant , Animal or Both
Plasma membrane			
Cytosol			
Cell Wall			
Centrioles			
Nucleoid			
Nucleus			

Nucleolus			
Chromosome/Chromatin			
Cytoplasm			
E.R. Endoplasmic Reticulum (Rough)			
E.R. Endoplasmic Reticulum (Smooth)			
Ribosome			
Golgi Apparatus			
Nuclear envelope(membrane)			
Lysosome			
Peroxisome			
Plastids			
Chloroplasts			
Mitochondria			
Cytoskeleton - Microtubules - Microfilaments - Intermediate fibers			
Cilia			
Flagella			

7. Compare plant and animal cells. (Differences and similarities)
  
8. What are the major roles of the cytoskeleton?
  
9. Compare Smooth and Rough ER.
  
10. How are cell walls composed in plants?
  
11. What is the ECM of Animal cells and what is it comprised of? What are the 4 major purposes of the ECM?
  
12. Animals have what 3 special intercellular junctions? List them below and describe their function.
  
13. Plants have what special junction between their cells? Which cell junction in an animal is it analogous to?
  
14. How do cells compare in size from bacteria to protist, plants and animals?