

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Quiz – Microscopes and Organelles

1. Light microscopes
  - a. Use light and glass lenses to magnify an image
  - b. Work by reflecting electrons off the surface of an object being studied
  - c. Can generally magnify objects about 10,000 times without blurring
  - d. Typically provide more resolution than an electron microscope
  - e. All of the choices are correct
  
2. A scientist wants to magnify a pollen grain 8,000 times and examine the ridges and pores on its surface. Which one of the following instruments would be best?
  - a. A scanning light microscope
  - b. A transmission electron microscope
  - c. A scanning electron microscope
  - d. A transmission light microscope
  - e. An inverted light microscope
  
3. A cell is exposed to a substance that prevents it from dividing. The cell becomes larger and larger. This situation
  - a. Should present no problem to the cell since it can continue to perform all other necessary functions
  - b. Should be beneficial since the cell will be able to divert the ATP normally used for cell division to other processes
  - c. Should present no problem to the cell because the surface area of the cell will increase as the volume of the cell increases
  - d. Will eventually be problematic since the cell's ability to absorb nutrients through its outer membrane will not keep increasing as quickly as its cytoplasmic needs
  - e. None of the choices are correct
  
4. Which one of the following is NOT found in prokaryotic cells?
  - a. Ribosomes
  - b. A membrane-bound nucleus
  - c. A cell wall
  - d. Pili
  - e. A capsule
  
5. You are told that the cells on a microscope slide are plant, animal, or bacterial. You look at them through a microscope and see cell walls and membrane-bound organelles. You conclude that the cells
  - a. Are bacteria
  - b. Are plant cells
  - c. Could be either plant or bacterial
  - d. Could be plant, animal, or bacterial
  - e. Are animal cells