

Honors Biology

Chapter 4 (Cell Structure and Function)

1. Notes on Cell Introduction:
2. What is Galileo Galilei famous for?
3. Who observed tiny compartments in cork and what did he name these compartments?
4. What does the Cell Theory state?
 - a. _____
 - b. _____
 - c. _____
5. How are all cells alike?
6. Diagram and label a phospholipid molecule and the plasma membrane:

7. Why must cells remain small in size?
8. How does a Transmission Electron Microscope (TEM) work?
9. How does a Scanning Electron Microscope (SEM) work?
10. What can you generally say about the size of cells?
11. What are the two general classifications of cells?
 - a. _____
 - b. _____
12. What does prokaryotic mean and what kind of cells are these?
13. Draw and label a bacterial cell:
14. What do bacterial cells secrete that aid in attachment? What else can this protective layer provide?

15. What are the only organelles found in prokaryotic cells?

16. What is the definition of a Eukaryotic Cell?

17. What are organelles?

18. Label the cell on page 2 of your lab answer sheet.

19. What did Lynn Marqulis propose?

20. Which other organelle contains its own DNA? Why is this so important to scientist?

21. Notes on the Cytoplasm:

a. _____

b. _____

c. _____

22. What is important about the cytoskeleton:

23. What controls all cell activity?

24. What about the nucleus and DNA?

25. What are 2 key functions of the nucleus:

26. Draw what the nuclear envelope below and label:
27. What is chromatin?
28. What are chromosomes?
29. Draw and label the nucleus below:
30. What is the nucleolus and why is it important?
31. Draw and label a ribosome:
32. What is the primary function of a ribosome?
33. What is the "Cytomembrane System" and what does it consist of?

34. Draw and label the Endoplasmic Reticulum: What is the difference between Rough and Smooth ER?

35. Draw and label the Golgi Apparatus (Complex):

36. What is the importance of the Golgi Apparatus?

37. What are vesicles and why are they important?

38. What are lysosomes and why are they important?

39. Draw and label the mitochondria. Why are they important?

40. Where are centrioles found?
41. What are centrioles and why are they important?
42. Draw and label a chloroplast.
43. Where are chloroplast found and why are they important?
44. What are vacuoles and why are they important?
45. What are cell walls made of and why are they important?
46. What the main differences between and animal and plant cells?