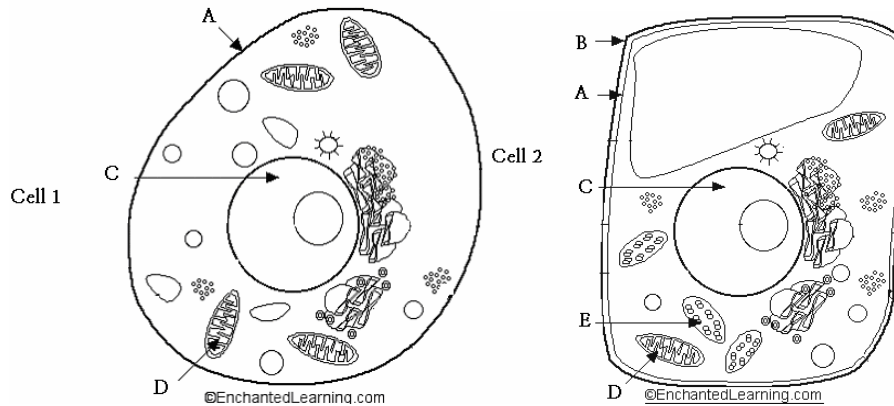


### 3. STRUCTURE AND FUNCTION OF LIVING THINGS STUDY GUIDE (YEAR)

1. What organelles are found in plant cells, but not in animal cells?  
**cell wall and chloroplast**
2. What organelles are found in both plant and animal cells  
**cell membrane, nucleus, and mitochondria**
3. What organelle holds the cell together and allows nutrients in and waste products out? **cell membrane**
4. What are the energy-converting organelles?  
**mitochondria and chloroplast**

Examine the diagram below and use it to answer the 7 questions that follow.



5. Which of the cells in the diagram above is a plant cell? Why?  
**Cell 2, because it has a cell wall**
6. Which of the cells in the diagram above is an animal cell? Why?  
**Cell 1, because it does not have a cell wall**
7. What organelle is letter A pointing to? **Cell membrane**
8. What organelle is the letter B pointing to? **Cell wall**
9. What organelle is letter C pointing to? **Nucleus**
10. What organelle is letter D pointing to? **Mitochondria**
11. What organelle is letter E pointing to? **Chloroplasts**
12. Which letter indicates the structure that holds the genetic information? **C**
13. What is the cell organelle which holds the hereditary information of the cell called? **Nucleus**

14. Which organelle uses sunlight to make energy? **Chloroplasts**

15. Why do plants need chloroplasts?

**Plants do not eat and need to convert light energy into sugar**

16. Why do animal cells not need chloroplasts?

**Animals eat food to get sugar which is converted to energy**

17. Why do both plant and animal cells have mitochondria?

**Both need to convert sugar into useable energy**

18. What is the heredity material in a cell called?

**DNA- deoxyribonucleic acid**

19. What is the function of DNA?

**Provide instructions for the function of the cell**

20. What are the basic units of all living things? **Cells**

21. What are the basic needs of a cell? **reproduce, use energy, remove wastes, transport nutrients**

22. Why are cells considered the basic unit of life?

**Cells are the basic unit of life because cells are the smallest units (things) that can perform all of the functions of life.**

23. A person has about 200 different kinds of cells; each specialized to do a particular job. This means that a person is what type of organism? **Multicellular**

24. What works together to form an organ? **Tissues**

25. What are some examples of plant and animal organs?

**Plant leaf, stem, stamen, anthers, stomach, heart, lung, etc.**

26. List the levels of organization in order from smallest to largest.

**Cells, tissues, organs, organ systems, organism**

27. What works together to make organ systems? **Organs**

28. What does an organ system need to function?

**Functioning organ systems need all of their organs functioning**

29. During a severe heart attack much of the tissue of the heart is damaged. How would this damage affect the organism?

**The tissue damage would affect the heart's function causing the organism to possibly die.**

30. When a person smokes the lungs become less effective at passing oxygen on to the blood. How does this affect the entire organism?

**Less oxygen enters the blood stream, causing more tissue damage to other organ systems.**

Examine the diagram below and use it to answer the 4 questions that follow.

<http://www.mrothery.co.uk/cellcycleandrepro/mitosisq1.htm>



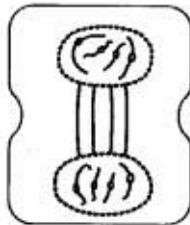
A



B



C



D



E

31. Which picture represents the phase where DNA is replicated?

**C (Interphase)**

32. Which picture represents the phase where chromosomes are pulled apart?

**A (Anaphase)**

33. Which picture represents the phase in which the nuclear membrane breaks down? **B (Prophase)**

34. Which picture represents the phase where the cell begins to divide? **D (cytokinesis)**

35. Why is mitosis necessary? **Mitosis results in two "daughter cells", which are genetically identical to each other, and is used for growth and asexual reproduction.**

36. Why is it necessary for the cell to duplicate DNA during mitosis? **So that each new cell produced receives an exact copy of the DNA in the parent cell**

### 3. Structure and Function of Living Things Study Guide (Year) Correlation with District Standards

1. TOP: GJUHSD 3a-4
2. TOP: GJUHSD 3a-4
3. TOP: GJUHSD 3a-2
4. TOP: GJUHSD 3a-2
5. TOP: GJUHSD 3a-4
6. TOP: GJUHSD 3a-4
7. TOP: GJUHSD 3a-5
8. TOP: GJUHSD 3a-5
9. TOP: GJUHSD 3a-5
10. TOP: GJUHSD 3a-5
11. TOP: GJUHSD 3b-2
12. TOP: GJUHSD 3b-3
13. TOP: GJUHSD 3b-3
14. TOP: GJUHSD 3a-3
15. TOP: GJUHSD 3a-3
16. TOP: GJUHSD 3a-3
17. TOP: GJUHSD 3a-3
18. TOP: GJUHSD 3b-1
19. TOP: GJUHSD 3b-1
20. TOP: GJUHSD 3d-1
21. TOP: GJUHSD 3a-1
22. TOP: GJUHSD 3a-1
22. TOP: GJUHSD 3d-2
23. TOP: GJUHSD 3d-2
24. TOP: GJUHSD 3d-2
25. TOP: GJUHSD 3d-1
26. TOP: GJUHSD 3d-2
27. TOP: GJUHSD 3d-3
28. TOP: GJUHSD 3d-3
29. TOP: GJUHSD 3d-4
30. TOP: GJUHSD 3d-4
31. TOP: GJUSHD 3c-2
32. TOP: GJUSHD 3c-2
33. TOP: GJUHSD 3c-2
34. TOP: GJUHSD 3c-2
35. TOP: GJUHSD 3c-1
36. TOP: GJUHSD 3c-3