

7.013 Sp 05 Section Self-quiz

1) Label the parts of the cell below.

Golgi apparatus
 lysosome
 mitochondrion

nucleolus
 nucleus
 plasma membrane

ribosomes on rough ER
 rough endoplasmic reticulum (RER)
 smooth ER

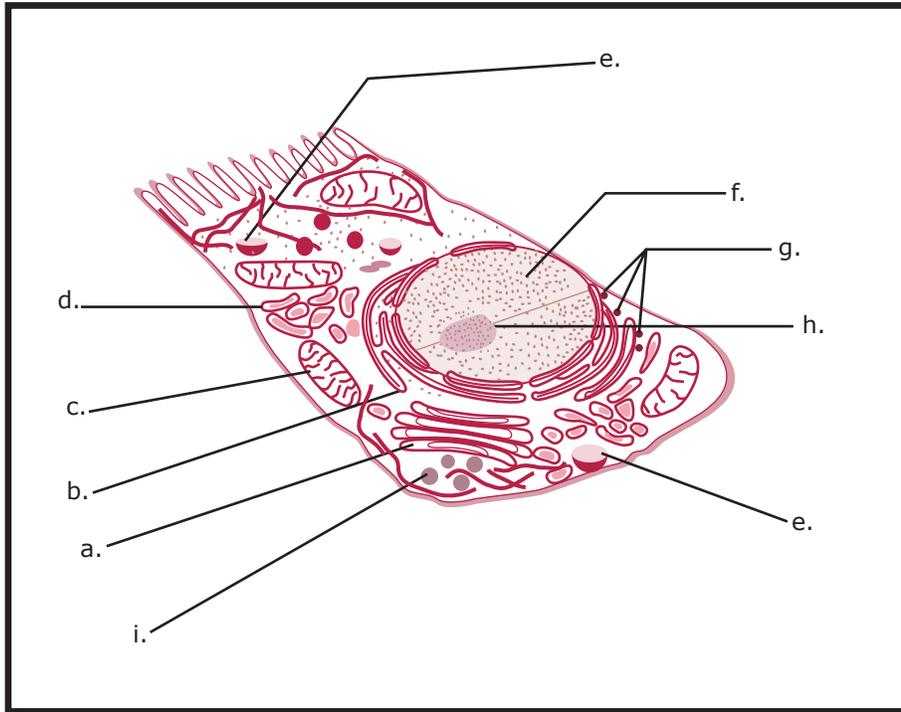


Image by MIT OCW.

2) Describe briefly how each labeled answer functions.

3 a) Label the parts of the eukaryotic cell on the diagram below using the following list.

nucleus
 golgi apparatus
 mitochondrion

cytoplasm smooth
 ribosomes on rough endoplasmic reticulum
 free ribosomes

endoplasmic reticulum
 plasma membrane
 endoplasmic reticulum

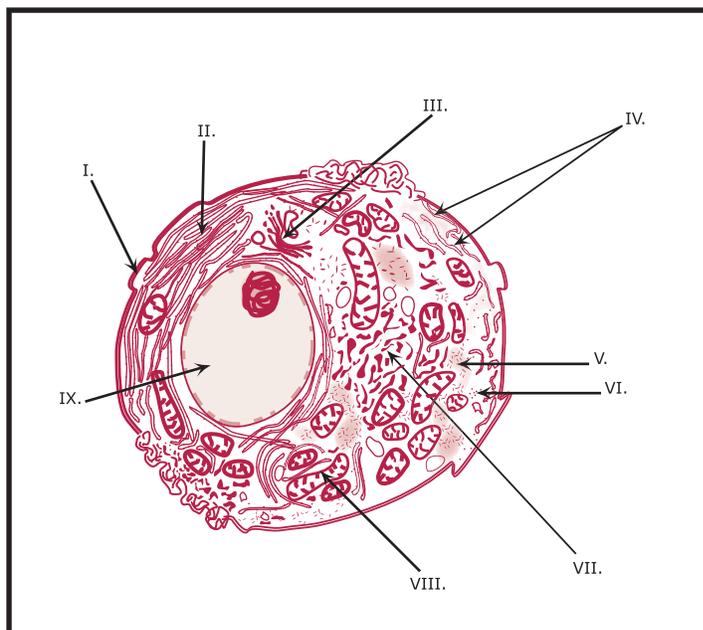


Image by MIT OCW.

3 b) How do prokaryotic cells differ from eukaryotic cells? (Note the prokaryotic cell is much much smaller than the eukaryotic cell but they are both drawn so that you can see and compare internal components.)

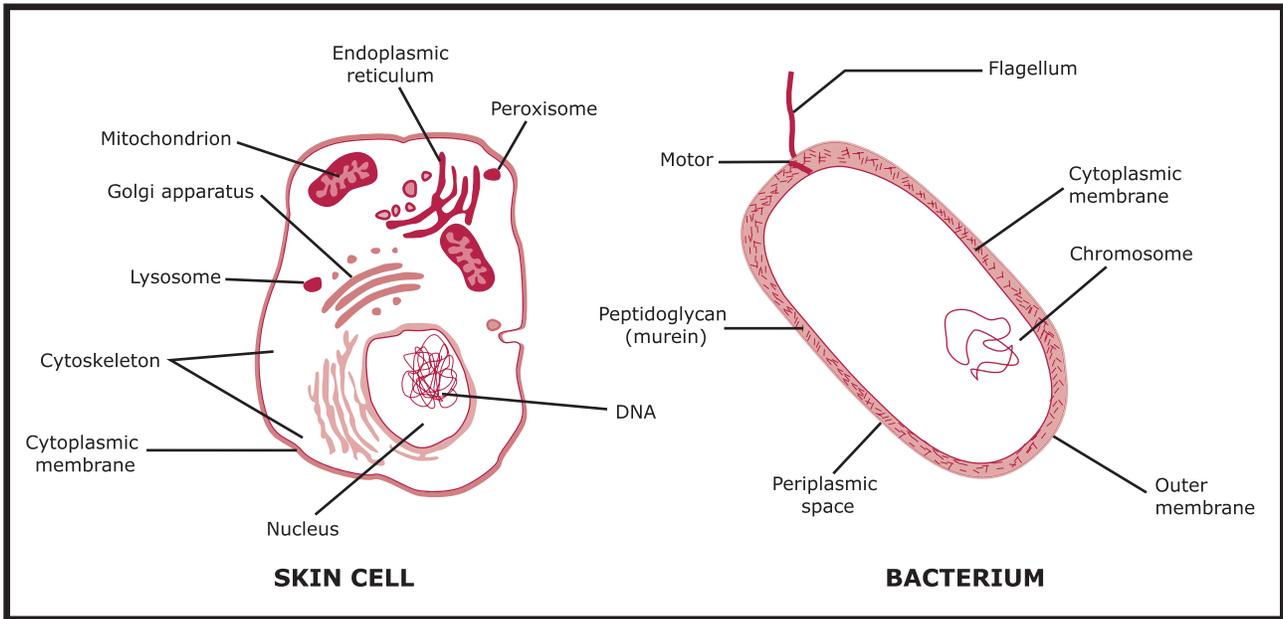


Figure by MIT OCW.

4) Currently, scientists estimate that life first appeared on approximately _____ years ago.

5) A key point in the theory of evolution is: slight variations among individuals significantly affect the chance that a given individual will survive in its environment and reproduce.

These variations among individuals are due to _____ .

6) Surface tension occurs in water because it has _____ .

7) The building blocks of DNA are _____ .

8) The building blocks of proteins are _____ .

9) All cells have a membrane composed of _____ .

10) In the process of glycolysis, cells make energy in the form of _____ .

11) Oxidation and _____ occur together.

12) What is a gene?

13) The "Central Dogma" states that information flow in the cell is from DNA to _____ to _____ .

14) Are the genes in your eye cells the same or different than the genes in your gut cells?

15) Are the proteins in your eye cells the same or different than the proteins in your gut cells?