Name_____ Class_____ Date_____

Conceptual Biology

Chapter 3: The Cell

Prokaryotic Cells and Eukaryotic Cells

1. State whether the following features are found in prokaryotic cells, eukaryotic cells, or both.

   a. nucleic acids — both

   b. cell membrane — both

   c. nucleus — eukaryotic cells

   d. organelles — eukaryotic cells

   e. mitochondria — eukaryotic cells

   f. chloroplasts — eukaryotic cells

   g. circular chromosome — eukaryotic cells

   h. cytoplasm — both

2. State whether these are prokaryotes or eukaryotes.

a. eukaryote

b. prokaryotes

c. eukaryote

d. eukaryote

e. eukaryote

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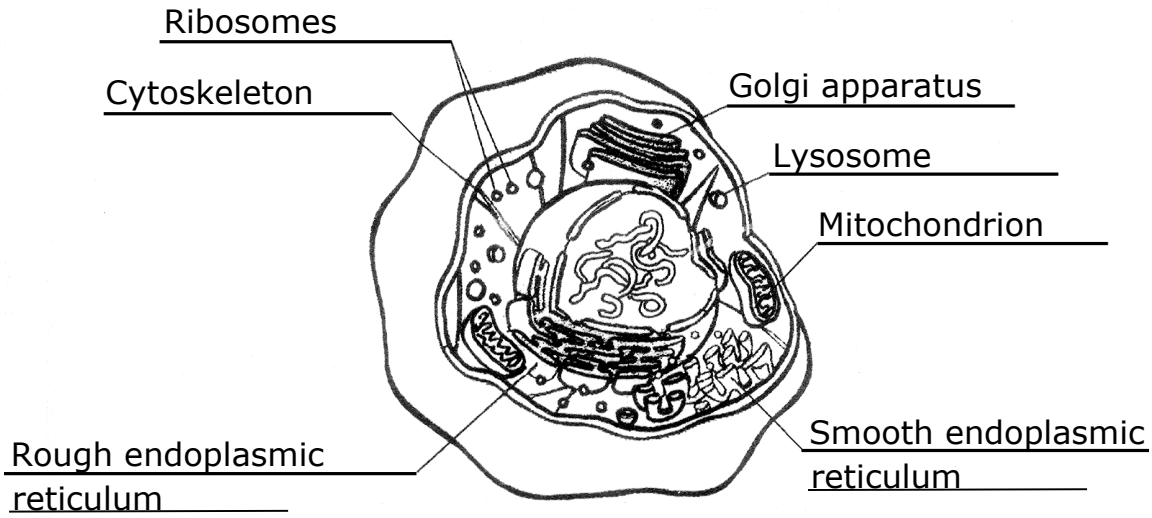
Chapter 3: The Cell

Eukaryotic Organelles

1. Label the organelles in the animal cell with the following terms:

Cytoskeleton	Ribosomes
Golgi apparatus	Rough endoplasmic reticulum
Lysosome	Smooth endoplasmic reticulum
Mitochondrion	



2. Match the organelles with their functions (a through h).

a. Contains ribosomes for building certain types of proteins
b. Breaks down organic molecules to obtain energy
c. In plant cells, captures energy from sunlight to build organic molecules
d. Receives products from the endoplasmic reticulum and packages them for transport
e. Helps cell hold its shape
f. Builds membranes
g. Builds proteins
h. Breaks down organic material

g Ribosome
a Rough endoplasmic reticulum
f Smooth endoplasmic reticulum
d Golgi apparatus
h Lysosome
b Mitochondrion
c Chloroplast
e Cytoskeleton

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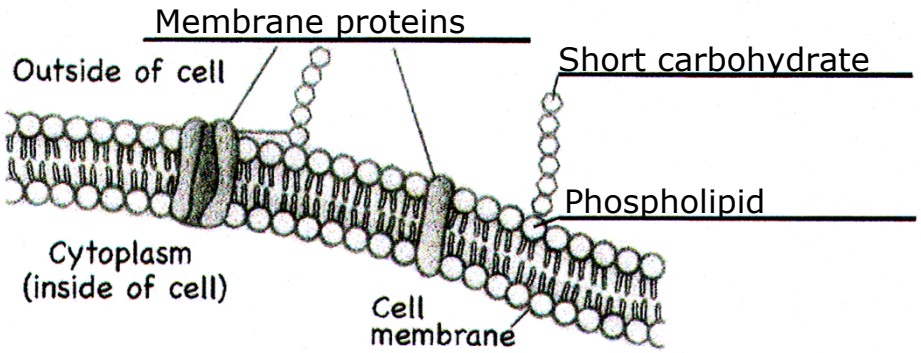
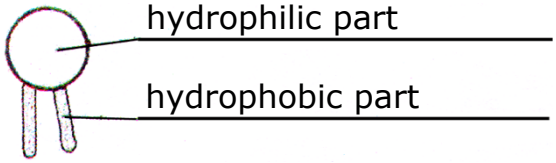
Chapter 4: How Cells Work

The Cell Membrane

1. Label the three components of the cell membrane in the figure.



2. a. Label the hydrophilic part and the hydrophobic part of the phospholipid.



b. Explain how the phospholipids are arranged in the cell membrane.

The hydrophilic heads of phospholipids like to be next to the watery environment inside and outside the cell. The hydrophobic tails of phospholipids like to stay away from water. These preferences determine how phospholipids arrange themselves in the cell membrane. The phospholipids form a double layer, with the hydrophobic tails pointing in and the hydrophilic heads pointing out.

3. What do the membrane proteins do?

Some membrane proteins act like gates for transporting molecules into and out of cells. Other membrane proteins help control the chemical reactions that occur in cells.

4. What do the short carbohydrates do?

The short carbohydrates allow different types of cells to recognize each other.

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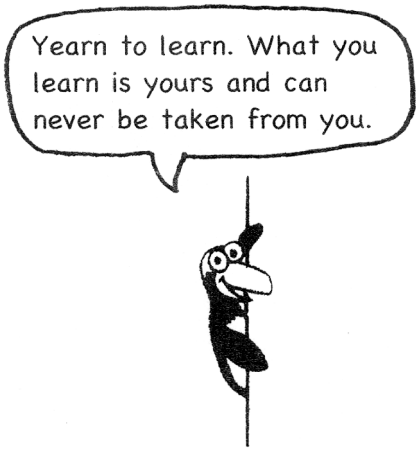
Yearn to learn. What you learn is yours and can never be taken from you.