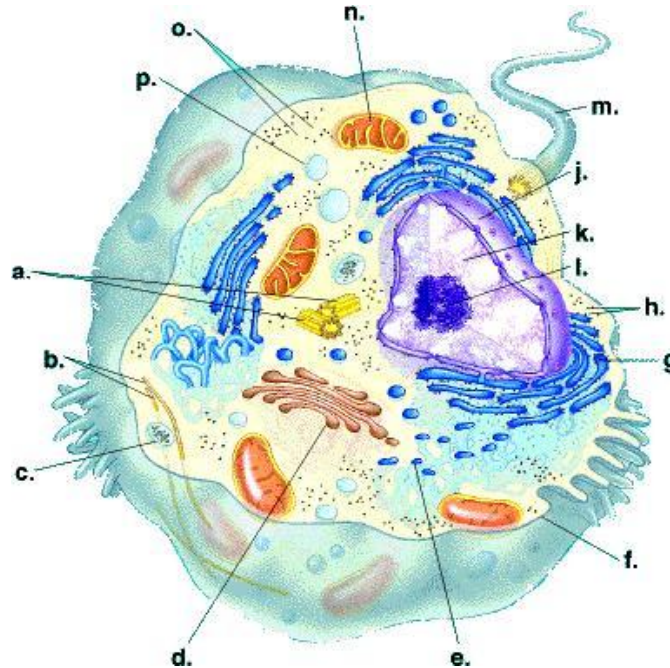


Cell Review Worksheet KEY

Part A: Organelle recognition and function.

1. Label the diagram.



- A – centriole
- B – microfilament
- C – lysosome
- D – Golgi body
- E – vesicle
- F – cell membrane
- G – ER
- H – polysomes
- I – none
- J – nuclear membrane
- K – nucleoplasm/nucleus
- L – nucleolus
- M – flagella
- N – mitochondria
- O – cytoplasm
- P - vacuole

2. Describe the function of the following organelles. DO NOT copy any definition or part of a definition - use your own words!

- a. cell membrane: *control what goes in and out of cell, forms barrier with outside environment*
- b. cell wall: *structural support in plant cells.*
- c. centriole: *in animals, function in cell division*
- d. chloroplast: *in plants, contain photosynthetic pigments that turn light, CO₂ and H₂O into glucose*
- e. chromosome: *packaging of DNA in nucleus. Functions in cell division*
- f. cilia: *on outside of cell, move materials past cells (e.g. in bronchi and kidney tubules) or used in locomotion.*
- g. cytoskeleton: *internal framework of m.t. and m.f. that move substances in cell and anchor organelles.*
- h. flagella: *used for locomotion in sperm cells and some single celled organisms*
- i. Golgi body: *for packaging, modification, secretion of substances for export inside and outside the cell.*
- j. lysosomes: *contain hydrolytic enzymes for digesting foods, destroy wastes, autodigestion*
- k. microfilament: *fibrous protein filaments used for structural support (e.g. cytoskeleton) and anchoring.*
- l. microtubule: *tubes of protein monomers used in cilia, flagella, cytoskeleton*

- m. mitochondria: *make energy for the cell by converting O₂ and glucose to CO₂, H₂O and ATP*
- n. nucleolus: *site of rRNA production and ribosomal subunit assembly in nucleus.*
- o. nucleus: *contains DNA, controls cell activities including cell division.*
- p. plastids: *pigment containing vesicles in plants that function in photosynthesis. Most famous plastid is the chloroplast.*
- q. ribosome: *site of protein synthesis*
- r. rough endoplasmic reticulum: *anchors ribosomes in protein synthesis, accepts and modifies newly transcribed proteins and sends to Golgi apparatus*
- s. smooth endoplasmic reticulum: *lipid synthesis, modification*
- t. vacuoles: *large vesicles. In plants, function to store water and nutrients, help support plant due to Turgor pressure*
- u. vesicle: *membrane-bound sacs for transporting materials in, around, and out of the cell, also used for storage of various materials.*

Part B: Write the correct letter of the word that best matches the following definition.

G	internal framework that anchors organelles, gives shape	A. cell membrane
K	cellular "ropes" made of repeating units of the protein actin	B. cell wall
L	hollow tubes for transport, movement, made of actin & tubulin proteins	C. centriole
I	vesicles pinch off these structures; proteins modified and packaged here	D. chloroplast
J	cellular "stomach"	E. chromosome
A	selectively permeable "doorman"	F. cilia
D	the most important plastid, turns CO ₂ , H ₂ O, sunlight into glucose	G. cytoskeleton
T	membrane-bound spheres that store water & dissolved materials. Membrane surrounding it is called a tonoplast. Plants have a large, central one.	H. flagella
N	site of rRNA production in nucleus	I. Golgi body
E	rod-like structures that package the DNA into neat, discrete units; play role in cell division	J. lysosomes
F	used for movement, and to move material past cell. Beat back and forth like little oars	K. microfilament
S	site of lipid synthesis	L. microtubule
R	appearance due to being peppered with ribosomes; this membranous network receives the just-synthesized protein and may modify it	M. mitochondria
O	the "brain" of the cell	N. nucleolus
M	this organelle has a double membrane and converts glucose and O ₂ to produce energy in the form of ATP	O. nucleus
B	enclose plant cells. Strong cellulose fibers give rigidity	P. plastids
P	small organelles in plants that contain pigments or store starch	Q. ribosome
U	small membranous spheres that transport materials around cell, out of cell via exocytosis, and into cell via endocytosis	R. rough ER
Q	made of rRNA and protein, these small, numerous organelles are the site of protein synthesis	S. smooth ER
C	twin barrel like structures in animal cells that play a role in cell division; have 9 + 2 arrangement of microtubules	T. vacuoles
H	whip-like structures used for movement in unicellular organisms; have 9 + 2 arrangement of microtubules	U. vesicle

Part C: Short Answer

1. What component of the cell membrane causes it to have a FLUID consistency? *phospholipids.*
2. What component causes it to be like a mosaic? *proteins.*
2. The cristae in mitochondria are the location for *enzymes* involved in *cellular respiration.*
3. The nucleus is enclosed by the *nuclear envelope*, which contains *pores* that open into the cytoplasm.

