

## Assignment 1: Chapter 3: Cells the Living Units

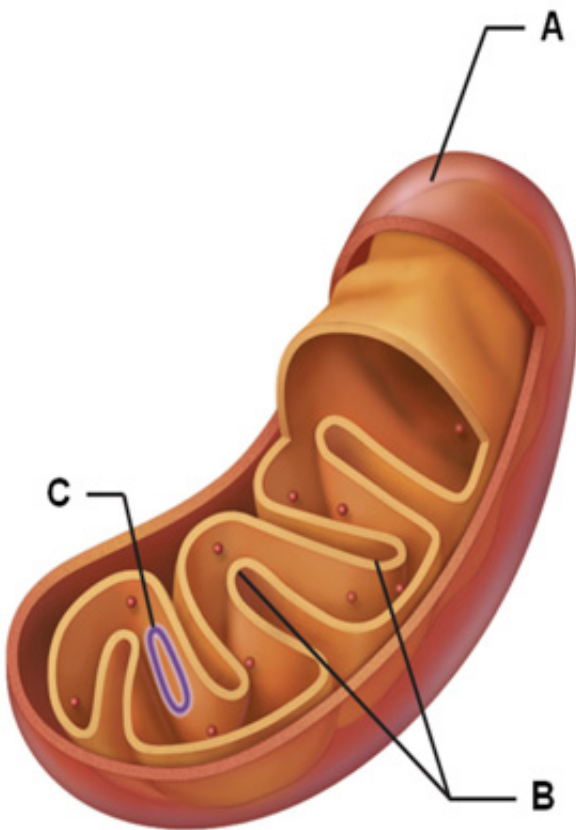
Due: 11:59pm on Monday, January 28, 2013

**Note:** *You will receive no credit for late submissions.* To learn more, read your instructor's [Grading Policy](#)

## Art Question Chapter 3 Question 1

## Part A

The figure is of which cellular organelle?



ANSWER:

- the nucleus
- a lysosome
- a mitochondrion
- the Golgi apparatus

**Correct**

Mitochondria are characterized by an oblong shape with a double membrane.

## Chapter 3 Chapter Test Question 14

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### Part A

Which of the following is NOT a characteristic of peroxisomes?

ANSWER:

- They contain powerful enzymes called acid hydrolases.
- They contain powerful enzymes called oxidases.
- They aid in the neutralization of dangerous free radicals.
- They contain powerful enzymes called catalases.

### Correct

Lysosomes (not peroxisomes) contain digestive enzymes that work best in acidic conditions and so are called acid hydrolases.

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## Chapter 3 Chapter Test Question 23

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### Part A

Lysosomes perform digestive functions within a cell.

ANSWER:

- True
- False

### Correct

Born as endosomes that contain inactive enzymes, lysosomes are spherical, membranous organelles containing activated digestive enzymes. Lysosomes are large and abundant within phagocytes, the cells that dispose of invading bacteria and cell debris. Lysosomal enzymes can digest almost all kinds of biological molecules. They work best in acidic conditions and so are called acid hydrolases.

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## Chapter 3 Reading Quiz Question 6

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### Part A

Which cell organelle provides the majority of the ATP needed by the cell to carry out its metabolic reactions?

ANSWER:

- ribosome
- mitochondrion
- Golgi apparatus
- lysosome

**Correct**

Mitochondria are the site of the majority of ATP production because of the specialized enzymes on their cristae.

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## Chapter 3 Reading Quiz Question 8

**Part A**

Which cell component helps to maintain the structural integrity of the cell?

ANSWER:

- centriole
- ribosome
- cytoskeleton
- peroxisome

**Correct**

The cytoskeleton acts as the cell's "bones," "muscles," and "ligaments" by supporting cellular structures and providing the machinery to generate various cell movements.

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## Chapter 3 Multiple Choice Question 12

**Part A**

What moves cell organelles from one location to another inside a cell?

ANSWER:

- Motor proteins
- Intermediate filaments
- Microfilaments
- Microtubules

Correct

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## Chapter 3 Multiple Choice Question 20

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### Part A

Which of these is an inclusion, *not* an organelle?

ANSWER:

- microtubule
- cilia
- melanin
- lysosome

Correct

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## Chapter 3 Multiple Choice Question 28

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### Part A

Ribosomes, endoplasmic reticulum, and the Golgi apparatus functionally act in sequence to synthesize and modify proteins for secretory use (export) only, never for use by the cell. This statement is \_\_\_\_\_.

ANSWER:

- false; integral cell membrane proteins are also synthesized this way
- true
- false; proteins thus manufactured are for use inside the cell only
- false; lipids, not proteins, are synthesized this way

Correct

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## Chapter 3 Multiple Choice Question 29

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**Part A**

Peroxisomes \_\_\_\_\_.

ANSWER:

- are also called microbodies, and contain acid hydrolases
- function to digest particles ingested by endocytosis
- sometimes function as secretory vesicles
- are able to detoxify substances by enzymatic action

**Correct**

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**Chapter 3 Multiple Choice Question 37****Part A**

The main component of the cytosol is \_\_\_\_\_.

ANSWER:

- sugars
- salts
- proteins
- water

**Correct**

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**Chapter 3 True/False Question 15****Part A**

Microfilaments are thin strands of the contractile protein myosin.

ANSWER:

- True
- False

Correct

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## Chapter 3 True/False Question 21

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### Part A

Microtubules are hollow tubes made of subunits of the protein tubulin.

ANSWER:

- True  
 False

Correct

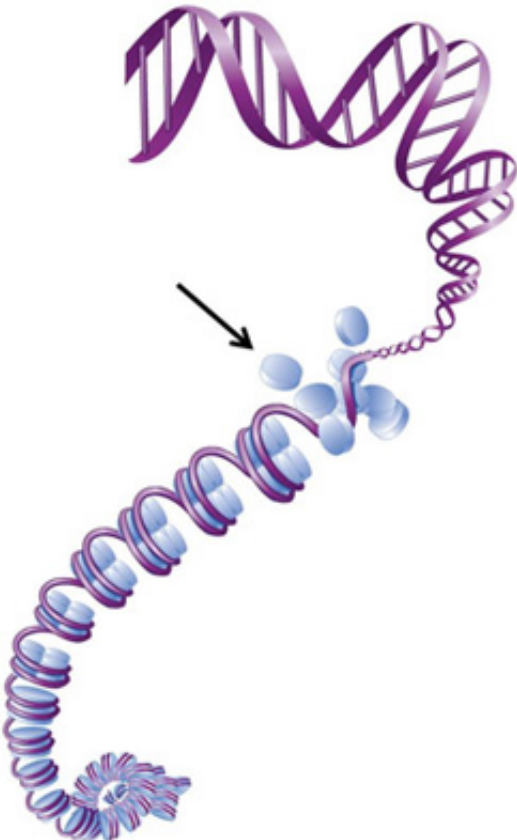
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## Art Question Chapter 3 Question 10

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### Part A

The indicated protein interacts with DNA to form the structural unit of chromatin called a \_\_\_\_\_.



ANSWER:

- microfilament
- vesicle
- centriole
- nucleosome

**Correct**

The DNA helix wraps around a group of histone proteins to form a structural unit called a nucleosome.

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## Chapter 3 Chapter Test Question 16

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### Part A

The nucleolus \_\_\_\_\_.

ANSWER:

- is the site of lipid production in a cell
- is a dark-staining spherical body found within the mitochondria
- is the site of ribosome assembly in a cell
- is the primary site of protein synthesis

**Correct**

Nucleoli ("little nuclei") are the dark-staining spherical bodies found within the nucleus where ribosomal subunits are assembled. They are not membrane bounded. Typically, there are one or two nucleoli per nucleus, but there may be more. Nucleoli are usually large in growing cells that are making large amounts of tissue proteins.

Score Summary:

Your score on this assignment is 85.7%.

You received 12 out of a possible total of 14 points.