BIOLOGY · ARIZONA

Biology
Practice Test

Unit 1: Cells and Molecular Biology

25 Questions

Original practice test based on the Arizona curriculum. Work through each question, then check your answers at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

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Question 1

One part of cell theory states that all living things are made of

A) One or more cells

B) Only plant cells

C) Only animal cells

D) Only single cells

Understand It with Pulse | Flag a mistake

Question 2

A cell that has no membrane bound organelles and no nucleus is best classified as

A) Prokaryotic

B) Multicellular

C) Photosynthetic

D) Eukaryotic

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Question 3

Both prokaryotic and eukaryotic cells have ribosomes, cytoplasm, DNA, and a

A) Plasma membrane

B) Large vacuole

C) Cell wall

D) Chloroplast

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Question 4

The nucleus of a eukaryotic cell is important mainly because it stores

A) Water for storage

B) ATP for movement

C) Genetic information

D) Lipids for insulation

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Question 5

Ribosomes build proteins by joining amino acids together in the order coded by

A) Messenger RNA

B) Lipid molecules

C) Glucose molecules

D) Water molecules

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Question 6

The rough endoplasmic reticulum differs from the smooth endoplasmic reticulum because it has

A) DNA in its lumen

B) Chlorophyll in its folds

C) No membrane at all

D) Ribosomes on its surface

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Question 7

A lysosome helps a cell by breaking down worn out parts and foreign material with

A) Stored starch

B) Hormone signals

C) Digestive enzymes

D) Sunlight energy

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Question 8

A plant cell is supported and protected by a rigid structure outside its plasma membrane called the

A) Golgi body

B) Cell wall

C) Cytoskeleton

D) Nuclear envelope

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Question 9

The Golgi body receives proteins, modifies them, and then sends them to their

A) Final destinations

B) Original ribosomes

C) Mitochondria only

D) Cell wall only

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Question 10

A phospholipid bilayer has hydrophilic heads facing water and hydrophobic tails facing

A) Toward the nucleus

B) Toward the ribosomes

C) Outside the cell only

D) Away from water

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Question 11

Oxygen enters a cell and carbon dioxide leaves mainly by the process of

A) Endocytosis

B) Exocytosis

C) Active transport

D) Simple diffusion

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Question 12

A red blood cell placed in pure water swells because water moves by osmosis from an area of

A) No solute to no solute

B) Lower solute concentration to higher solute concentration

C) Higher solute concentration to lower solute concentration

D) Equal pressure to lower pressure

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Question 13

A plant cell placed in very salty water loses water, its cytoplasm shrinks, and the membrane pulls away from the

A) Cell wall

B) Nucleus

C) Ribosome

D) Chloroplast

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Question 14

Active transport differs from diffusion because active transport moves substances against a gradient and uses

A) Sunlight directly

B) Water pressure only

C) Gravity alone

D) Cell energy in the form of ATP

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Question 15

A cell takes in a large food particle by folding its membrane around the particle in a process called

A) Endocytosis

B) Facilitated diffusion

C) Osmosis

D) Diffusion

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Question 16

An enzyme speeds up a chemical reaction without being used up by lowering the

A) Number of products formed

B) Activation energy needed

C) Temperature of the cell

D) Amount of substrate present

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Question 17

An enzyme and its substrate fit together at a specific region of the enzyme called the

A) Active site

B) Cell wall

C) Plasma membrane

D) Nuclear pore

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Question 18

An enzyme was tested at four temperatures and the amount of product formed in ten minutes was recorded At 10 degrees Celsius 5 units were formed At 25 degrees Celsius 18 units were formed At 37 degrees Celsius 32 units were formed At 60 degrees Celsius 6 units were formed The temperature closest to the optimum for this enzyme is

A) 25 degrees Celsius

B) 37 degrees Celsius

C) 60 degrees Celsius

D) 10 degrees Celsius

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Question 19

A protein loses its shape when heated strongly, and it can no longer bind its substrate, because the protein has been

A) Photosynthesized

B) Fermented

C) Denatured

D) Replicated

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Question 20

The monomers that join to form a protein are

A) Monosaccharides

B) Amino acids

C) Fatty acids

D) Nucleotides

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Question 21

The main function of nucleic acids in a cell is to store and transmit

A) Genetic information

B) Quick energy

C) Heat energy

D) Water

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Question 22

A DNA strand reads GCTA in order, and the complementary strand pairs A with T and G with C The complementary strand in the same order is

A) CGAT

B) ATGC

C) TAGC

D) GCTA

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Question 23

During DNA replication each original strand serves as a template, so each new DNA molecule contains

A) Two new strands only

B) No original strand

C) One original strand and one new strand

D) Two original strands

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Question 24

A messenger RNA codon table is given UGC codes for cysteine CAU codes for histidine The sequence AUGUGC codes for methionine followed by

A) Phenylalanine

B) Histidine

C) Cysteine

D) Methionine

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Question 25

One cell divides by mitosis four times in a row with no cells dying How many cells result

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ANSWER KEY

1.	A	**10.**	D	**18.**	B
2.	A	**11.**	D	**19.**	C
3.	A	**12.**	B	**20.**	B
4.	C	**13.**	A	**21.**	A
5.	A	**14.**	D	**22.**	A
6.	D	**15.**	A	**23.**	C
7.	C	**16.**	B	**24.**	C
8.	B	**17.**	A	**25.**	16
9.	A				

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