This is a Class 1 exam

Lebanon Evangelical School
for Boys and Girls Loueizeh - Baabda

Stage Exam 05
27APR2026

Do NOT write in this box. Your MARK will be placed here.

Subject :	Science	
Class :	6C	
Teacher :	Mrs. Aya Al Mawla	
Duration :	1 hour	
Write on a separate lined sheet.		
Your name :		*Time taken to complete exam*
Your Class :		
Exam Room :		
How many sheets, including cover sheet :		

- Do not open this paper until the teacher in charge instructs you to do so.
- The most important thing to remember in taking an exam is NEVER PANIC.
- If you are caught cheating in this exam, you will be awarded zero for ALL exams that are taken on this day.

Exercise 1:

Choose the correct answer. *(12 points)*

1- What is *inheritance*?
   A. The study of cells
   B. The passing of traits from parents to offspring
   C. A type of mutation
   D. The structure of DNA

2- A *trait* is:
   A. A type of chromosome
   B. A specific characteristic of an organism
   C. A DNA molecule
   D. A mutation

3- *Genes* are:
   A. Entire chromosomes
   B. Segments of DNA that code for traits
   C. Proteins in the body
   D. Cells in the nucleus

4- Where are genes located?
   A. Cytoplasm
   B. Ribosomes
   C. Chromosomes
   D. Cell membrane

5- DNA stands for:
   A. Deoxyribonucleic Acid
   B. Dynamite Nuclear Acid
   C. Double Nitrogen Atmosphere
   D. Danger Nucleic Atom

6- The *genotype* of an organism refers to:
   A. Its physical appearance
   B. Its complete set of genes
   C. Its environment
   D. Its behavior

7- The *phenotype* is:
   A. The DNA sequence
   B. The mutation
   C. The chromosome number
   D. The expressed physical traits

8- *Chromosomes* are:
   A. Liquid substances in cells
   B. Types of proteins
   C. Only found in plants
   D. Structures made of DNA

9- A *mutation* is:
   A. A normal trait
   B. A permanent change in DNA sequence
   C. A type of chromosome
   D. A protein

10- In *asexual reproduction*, offspring have:
   A. Completely different DNA
   B. Half of the parent's DNA
   C. Identical DNA to the parent
   D. No DNA

11- An *allele* is a:
   A. Version of a gene
   B. Type of a cell
   C. Pair of chromosomes
   D. Mutation only

12- Which structure contains the DNA in eukaryotic cells?
   A. Cytoplasm
   B. Cell membrane
   C. Nucleus
   D. Ribosomes

Exercise 2:

Answer by True or False, then change the underlined words to correct the false statements.

(10points)

1- All animals have specialized cells such as nerve and muscle cells.
2- Animals are multicellular autotrophs that reproduce sexually.
3- Halogen is a substance found in animals that bind their cells together.
4- All Aquatic animals have bilateral symmetry.
5- Animals with a front and a back side usually have radial symmetry.
6- Radial symmetry means body parts are arranged around a central axis.
7- Adaptations can decrease an animal's chance of survival.
8- Fertilization can occur inside or outside the body of an animal.
9- Animals such as jelly fish, sea anemone, and star fish have asymmetry.
10- The animal cell is eukaryotic.

- **Exercise 3:**
Indicate the type of adaptation in each of the following example. Use (S) for structural adaptations, (B) for behavioral adaptations and (F) for functional adaptations. *(6points)*

1- The endoskeleton of a tiger.
2- The long beak of a woodpecker.
3- Producing antifreeze proteins in the blood so icy water doesn't freeze the body.
4- A polar bear having thick fur and a layer of fat for insulation.
5- Birds migrating long distances during winter.
6- A giraffe having a long neck to reach high leaves.
7- A snake producing venom to capture prey.
8- Bears hibernating during winter months.
9- A porcupine having sharp quills for defense.
10- Wolves hunting in packs.
11- A skunk releasing a foul-smelling spray to deter predators.
12- Penguins having their bodies shaped like an elongated oval for efficient swimming.

- **Exercise 4:**
Identify the organelle or cell structure described in each of the following sentences. *(12points)*

1- Slime-like material that protects a cell from attacks of other organisms' immune systems
2- The control center of a eukaryotic cell.
3- The organelle that provides energy for an animal cell.
4- Structures responsible for making proteins in the cell.
5- Structures that help the cell in making lipids.
6- A rigid outer structure that protects the cell and gives it support.
7- Tiny structures responsible for transporting substances in the cell.
8- The organelle that converts sunlight into chemical energy.
9- An outer structure made up of proteins and lipids.
10- A structure that helps a bacteria cell to move.
11- Organelles that package and sort proteins.
12- An organelle that stores water, wastes, or food.

- **Exercise 5:** *(7points)*

Part A: ***Arrange the following structures in order starting with the largest.***

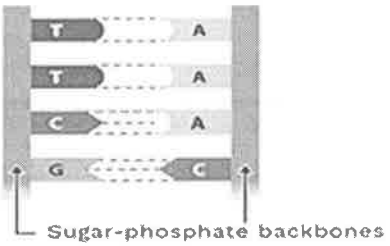
Gene - Nucleus – Cell – Chromosome

Part B: ***A segment of DNA having an error in the sequence is shown in the figure below.***

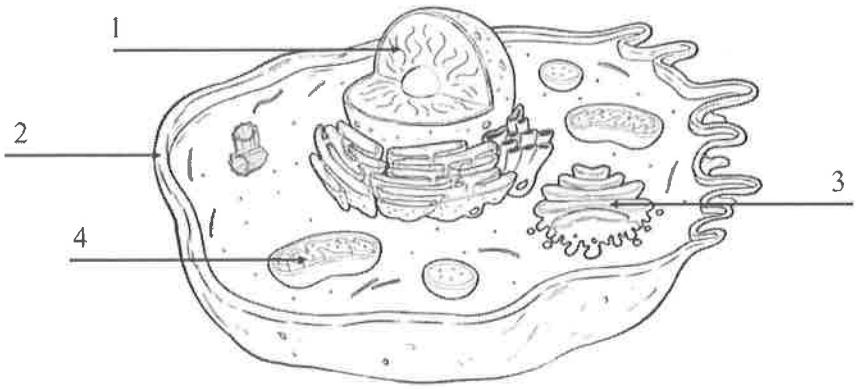
1- Identify the error.

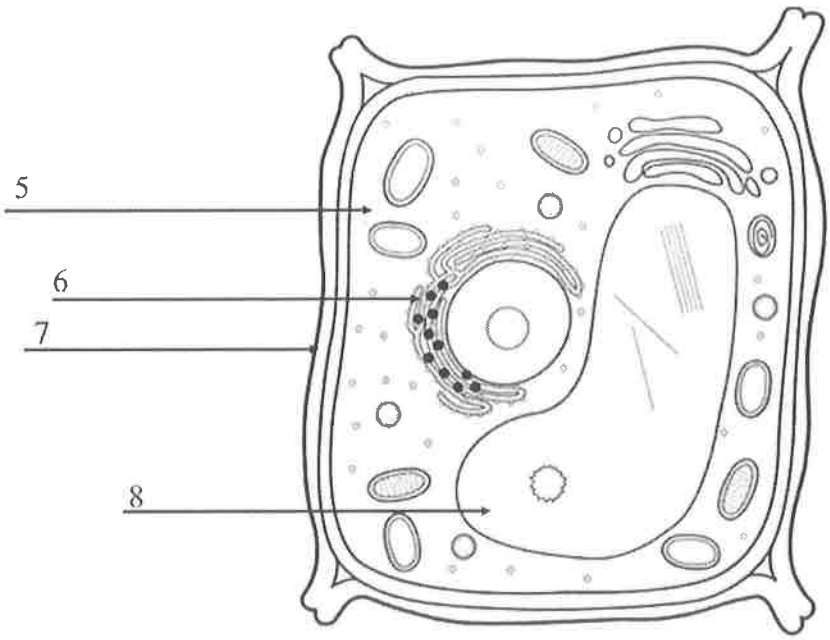
2- Suggest how the sequence is supposed to be correct.

3- What will this error in the sequence lead to?



- **Exercise 6:** ***Label the structures (1 till 8) in the cell diagrams below.*** *(8points)*





- **Exercise 7:** ***Three cells (A), (B) and (C) were observed under the microscope by a student.***
(5points)

Cell (A) was observed to have a cell wall and a large central vacuole.
Cell (B) was observed to have a cell wall with an absence of a nucleus or other membrane-bound organelles.
Cell (C) was observed to have a flexible membrane, a nucleus and no vacuole.

1- Indicate the type of each of the cells (A), (B) and (C).
(Animal cell or Plant cell or Bacteria cell)

2- Sara, the student who was observing the cells under the microscope, was surprised when she realized that the animal cell observed was basically a cell of a jelly fish. She said that a jelly fish can't be considered as an animal because it doesn't have an endoskeleton. So, her teacher corrected her information by giving her the text below to read. However, some words were hidden. Help Sara and ***fill in the blanks a and b*** with the missing words.

"*Not all animals have internal body frames as the endoskeleton. Some animals have a hard outer covering that protects their bodies called* ***(a)*** *. Other animals have an internal fluid filled cavity surrounded by muscle tissues called* ***(b)*** ."

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Ex 1:
1- B
2- B
3- B
4- C
5- A
6- B
7- D
8- D
9- B
10- C
11- A
12- C
(12 pts: 1 pt each)

Ex 2:
1- True (1)
2- False (0.5) - Heterotrophs (0.5)
3- False - Collagen
4- False - Most Terrestrial animals
5- False - Bilateral
6- True
7- False - Increase.
8- True
9- False - Radial
10- True
(10 pts: 1 pt each)

Ex 3:
1- S
2- S
3- F
4- S
5- B
6- S
7- F
8- B
9- S
10- B
11- F
12- S
(6 pts: 0.5 pt. each)

Ex. 4:
1- Capsule
2- Nucleus
3- Mitochondrion
4- Ribosomes
5- Smooth ER.
6- Cell wall
7- Vesicles
8- Chloroplast
9- Cell membrane
10- Flagellum
11- Golgi Body
12- Vacuole.
(12 pts: 1 pt each)

Ex. 5:

Part A:
- Cell
- Nucleus
- Chromosome
- Gene

(4 pts: 1 each)

Part B:
1- A can't pair with C (1pt)
2- A pairs with T.
or C pairs with G. (1 pt)
3- Mutation / Death. (1pt)

Ex. 6:
1- Nucleus
2- Cell membrane
3- Golgi Body
4- Mitochondria
5- Cytoplasm
6- Rough ER
7- Cell wall
8- Vacuole

(8 pts: 1 pt. each)

Ex. 7:
1- Cell (A): Plant cell
Cell (B): Bacteria Cell
Cell (C): Animal Cell.
(3 pts: 1 pt. each)

2- (a): exoskeleton
(b): hydrostatic skeleton.
(2 pts: 1 pt. each)