ALADWAA
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SCIENCE

نماذج اختبارات الأضواء النهائية

الفصل الدراسى الأول

الصف 2 الإعدادى

الفصل الدراسى الأول

1- A) Complete the following sentences:

1. ..... materials have the ability to flow and be compressed, while ..... materials have the ability to flow only.
2. The reaction of silver nitrate solution with sodium chloride solution is indicated by the formation of a ..... precipitate of ..... .

B) What is the importance of ...?

1. Carbohydrates for living organisms
   - .....
2. Radiator
   - .....
3. Sensory receptors in a snake's head
   - .....
   - .....
4. Stroma
   - .....
   - .....

2- A) Choose the correct answer:

1. Which of the following materials has the lowest thermal conductivity?
   a) Iron. b) Aluminum. c) Copper. d) Wood.
2. ..... is considered a mineraloid because it is not crystalline.
   a) Talc b) Opal c) Halite d) Mica

B) Give a reason for:

1. It is preferred to represent a chemical reaction with a symbolic equation rather than a word equation.
   - .....
   - .....
2. It is preferred to use polystyrene sheets between hollow bricks when constructing buildings.
   - .....
   - .....

3 The occurrence of the San Andreas fault.

- .....

4 The number of mitochondria increases in muscle cells.

- .....

3- A) Write the scientific term:

1 A type of sugar composed of two monosaccharide units with the removal of one water molecule. (.....)

2 A method by which heat is transferred through space without the need for material particles. (.....)

B) First: What happens when ...?

1 Benedict's solution is added to a low concentration of glucose.

- .....

2 Volcanic ash spreads in the environment.

- .....

Second: Balance the following equations and write the physical states of reactants and products.

1 ..... K (.....) + Br_2(.....) → 2 KBr (s).

2 ..... Al (.....) + ... O_2 (.....) → ..... Al_2O_3(s)

4- A) Put (✓) or (✗):

1 Convergent movement of tectonic plates occurs due to descending convection currents. ( )

2 Xylem vessels transport food from the leaves to other parts of the plant. ( )

B) First: Define:

1 Catabolism processes

- .....

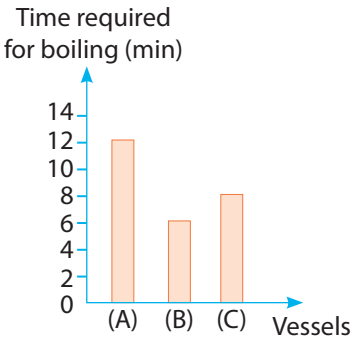
- .....

2 Isolated system

- .....

Second: Look at the opposite figure, then answer:

The opposite figure shows the time required for three vessels containing different amounts of water to reach boiling point, given that the flame source is constant for all three vessels.



1. Which vessel contains the largest amount of water?
   (.....).
2. Identify the controlled variable and the independent variable in this experiment.
   - .....
   - .....

1- A) Choose the correct answer:

1. In which of the following processes does a substance gain thermal energy?

   a) Freezing. b) Condensation. c) Sublimation. d) Deposition.

2. The ancient Egyptians used ..... mineral in making eye makeup(kohl).

   a) quartz b) sulfur c) galena d) opal

B) First: How can you detect the presence of ...?

1. Starch in food

   • .....

2. Fats in food

   • .....

Second: Compare between each of the following:

1. An open system and a closed system (in terms of exchange of matter and energy with the surroundings with examples).

Open system	Closed system
.....	.....
.....	.....

2. Chloroplasts and mitochondria in (terms of shape and importance).

Chloroplasts	Mitochondria
.....	.....
.....	.....

2- A) Complete the following sentences:

1. The Nile Delta is an example of ..... soil, while ..... is an example of sedentary soil.
2. The force of attraction between the particles of a solid are ....., and the interparticle spaces are ..... .

B) Define:

1. The internal energy of a system
   - .....
   - .....
2. Physical change
   - .....
   - .....
3. Enzymes
   - .....
   - .....
4. Brownian motion
   - .....
   - .....

3- A) Correct the underlined words:

1. Light-dependent reactions occur in the **stroma** of the chloroplast. (.....)
2. Firefighters wear **dark black** uniforms to prevent heat absorption. (.....)

B) First: Use the following symbols and words to write two equations representing:

$C_6H_{12}O_6 - 6O_2 - 6CO_2 - 6H_2O$ – Sunlight – ATP energy

1. Photosynthesis process

$$6CO_2 + 6H_2O \xrightarrow{\text{Light energy}} C_6H_{12}O_6 + 6O_2$$

2. Cellular respiration

$$C_6H_{12}O_6 + \ldots\ldots O_2 \longrightarrow \ldots\ldots H_2O + \ldots\ldots CO_2 + \text{ATP energy}$$

Second: What is the importance of ...?

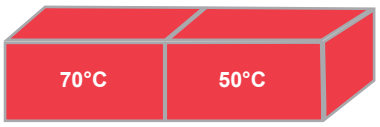
1. The DART radar
   - .....
2. The metabolic rate analyzer
   - .....

4- A) Write the scientific term:

1. The state in which the temperatures of two systems become equal and heat transfer stops. (.....)
2. Breaking the bonds between the atom of reacting molecules and forming new bonds between atoms of the product. (.....)

B) Answer the following questions:

1. The opposite figure shows two copper cubes in contact:



a) What is the expected temperature of the two cubes when thermal equilibrium is reached?

- .....

b) By which method does heat transfer occur between the two cubes?

- .....

2. Write the balanced symbolic chemical equation for the reaction of nitrogen gas with hydrogen gas to form ammonia gas, including the physical states of reactants and products.

- .....

3. What happens when tectonic plates move side by side in opposite directions?

- .....

1- A) Correct the underlined words:

1. The Great African Rift Valley is formed as a result of **convergent** movement of continental tectonic plates. (.....)
2. **Lactic acid** is produced in the first stage of cellular respiration. (.....)

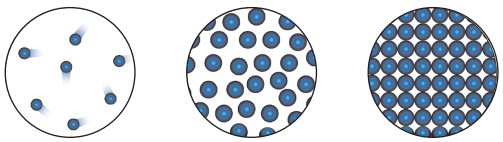
B) Give a reason for:

1. Human body has a large percentage of water.
   - .....
   - .....
2. A gas has indefinite shape and indefinite volume.
   - .....
   - .....
3. The occurrence of diabetes in some individuals.
   - .....
   - .....
4. Earthquakes cause material (economic) losses.
   - .....

2- A) Write the scientific term:

1. A biological process in which oxygen and carbon dioxide are exchanged with the surrounding environment. (.....)
2. The amount of heat needed to raise the temperature of 1 kg of a substance by 1°C. (.....)

B) Look at the opposite figures, then answer:



(1) (2) (3)

1. Which of the figures represents a fluid?
   - .....
2. Which of the particles is compressible?
   - .....
3. State the name of the process in which the substance changes from state (3) to state (1).
   - .....
4. A substance loses thermal energy when it changes from figure 2 to figure ..... .
   - .....

3- A) Correct the following sentences:

1. Carbohydrates are made up of basic units called amino acids.

   • .....

2. The theory of tectonic plates was proposed by Alfred Wegener.

   • .....

B) First: How can you deduce that a chemical reaction has occurred in the following experiments?

1. Frying an egg

   • .....

2. Adding a piece of magnesium ribbon to a test tube containing hydrochloric acid.

   • .....

Second: Look at the figures, then answer:

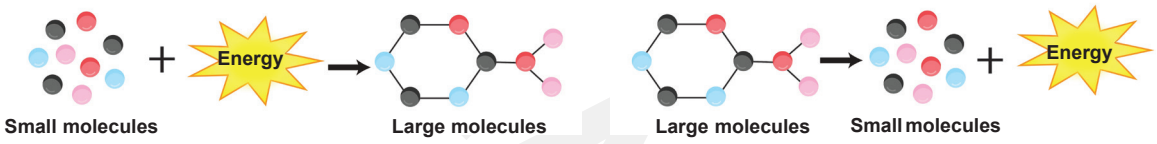


Figure 1 Figure 2

1. Which figure represents a **catabolic process?** Give an example.

   • .....

2. Which figure represents an **anabolic process?** Give an example.

   • .....

4- A) Complete the following sentences:

1. During the ..... and ..... processes, the temperature of the substance remains constant.
2. Silica-rich magma forms minerals such as ..... and ..... during solidification.

B) First: What happens when ...?

1. Two oceanic tectonic plates converge toward each other.

   • .....

2. Solid iodine is heated.

   • .....

Second: Write the chemical name for each of the following:

1. Baking soda (.....)
2. Vinegar (.....)

1- A) Complete the following sentences:

1. Energy transfers from the system with a ..... temperature to the system with a ..... temperature.
2. One of the indications of a chemical reaction is the formation of a ..... such as when adding silver nitrate solution to a ..... solution.

B) Give a reason for:

1. Wet clothes dry faster during the day under bright sunlight than at night.
   - .....
2. When a zinc plate is placed in a beaker containing blue copper sulfate solution, the blue color disappears.
   - .....
3. Plant leaves appear green.
   - .....
   - .....
4. Opal is described as a mineraloid although it has a definite chemical composition.
   - .....

2- A) Write the scientific term:

1. A naturally occurring solid inorganic substance that has a crystalline structure and a specific composition. (.....)
2. A system in which no exchange of matter or energy occurs with the surroundings. (.....)

B) Compare between each of the following:

1. Iron and oxygen "in terms of interparticle forces and interparticle spaces".

P.O.C	Iron	Oxygen
Interparticle forces	.....	.....
Interparticle spaces	.....	.....

2 Two equal masses of sand and water exposed to sunlight for the same duration "in terms of internal energy and temperature".

P.O.C	An amount of sand	An amount of water
Internal energy	.....	.....
Temperature	.....	.....

3 Fats and proteins "in terms of their detection methods "

P.O.C	Fats	Proteins
Method of detection	....	....

4 The first stage of photosynthesis and cellular respiration "in terms of the location of occurrence".

P.O.C	First stage of photosynthesis	First stage of cellular respiration
Location of occurrence	.....	.....

3- A) Choose the correct answer:

1 All of the following are natural phenomena that change the Earth's surface, except ..... .

a) volcanic eruptions b) aurora

c) meteor impacts d) earthquakes

2 The process in which dry ice changes directly into the gaseous state is called ..... .

a) melting b) freezing c) sublimation d) deposition

B) What happens when ...?

1 The breakdown of pyruvic acid in the mitochondrial matrix.

- ..... .

2 The convergence of two continental plates.

- ..... .

3 Exposing silver chloride precipitate to sunlight.

- ..... .

4 Placing the hand near a hot lamp without touching it.

- ..... .

4- A) Cross out the odd word:

1. Iron rusting – frying eggs – dissolving sugar in water – burning wax.
(.....)

2. Melting ice – dissolving salt in water – fruit decay – cutting paper. (.....)

B) Answer the following:

1. Write the balanced symbolic equations for the following reactions, including the physical state of reactants and products, and the reaction condition.

(a) Combustion of methane gas in the presence of oxygen gas to form carbon dioxide gas and water vapor.

- .....

(b) Reaction of solid iodine with hydrogen gas to produce hydrogen iodide gas.

- .....

2. Chloroplasts consist of several components. Mention the function of the following parts.

a) Stroma:

- .....

b) Double membrane:

- .....

1- A) Choose the correct answer:

1. A piece of ice cube is added to cup of orange juice at 25°C, and after 5 minutes the temperature of the cup became 9°C. The temperature of the remaining ice pieces would be ..... °C.

   a) 25 b) 0 c) 9 d) 12

2. Which of the following is considered a monosaccharide?

   a) Sucrose. b) Maltose. c) Glucose. d) Cellulose.

B) First: Determine which of the following is catabolic process or anabolic process:

1. Converting glucose into glycogen (.....)
2. Breaking down proteins into amino acids (.....)

Second: Give one example for each of the following:

1. A translucent mineral (.....)
2. An isolated system (.....)

2- A) Put (✓) or (✗):

1. When silver chloride precipitate is exposed to sunlight, it changes from yellow to violet. ( )
2. Heat is transferred in solids due to the movement of the particles from one place to another. ( )

B) Give a reason for:

1. The temperature of a quantity of oil increases faster than the temperature of the same quantity of water.

   • .....

2. Flower petals are colored.

   • .....

3. Burning sugar is a chemical change.

   • .....

   • .....

4. The boiling point of water decreases with increasing altitude above sea level.

   • .....

3- A) Write the scientific term:

1. Any part of the universe that is under study, where the changes in matter and energy are observed. (.....)
2. The movement of cool air from the sea toward the land during the daytime due to temperature differences. (.....)

B) First: What happens when ...?

1. A magnesium strip is burnt in air.

• .....

2. The reactions of the electron transport chain inside the mitochondria stop.

• .....

Second: Mention two factors that affect the rate of evaporation.

1 ..... 2 .....

4- A) Correct the following sentences:

1. The soil of the Nile Delta in Egypt is residual soil.

• .....

2. When iodine solution is added to a green plant leaf containing starch, it turns red.

• .....

B) First: Define:

1. Catalysts

• .....

2. Plasma

• .....

Second: Compare between each of the following:

1. Heat transfer by convection and by radiation (Give an example for each).

P.O.C	Thermal convection	Thermal radiation
Transport medium	.....	.....
Example	.....	.....

2. The Himalayas and the Andes in terms of how each was formed.

P.O.C	Himalayas mountain	Andes
Cause of formation	....	....