



ALADWANA

Gem



Science

الصف 4 الابتدائي

إجابات نماذج اختبارات الأضواء لشهر إبريل

الفصل الدراسي الثاني 2024 - 2025

## Model (1)

5  
Marks

### 1 (A) Choose the correct answer:

- 1 From the disadvantages of using windmills: .....
- a) they are expensive. **b) sometimes the wind doesn't blow.**  
c) they are always available. d) they are cheap.
- 2 Which of the following doesn't cause mechanical weathering?
- a) Roots of plants. **b) Acid rains.**  
c) Wind movement. d) Water movement.

### (B) What happens when ...?

- 1 The kinetic energy that is applied to the wind turbines increases.  
**- The electrical energy generated increases.**
- 2 Sea waves pull sand away from beaches.  
**- Beaches erosion occurs.**

### 2 (A) Put (✓) or (✗):

- 1 Radiant energy is produced from the Sun. (✓)
- 2 After a rain storm, water in creeks or poured from gutters is muddy due to the deposition process. (✗)

### (B) Give a reason for:

- 1 Generators are important in the electric power stations.  
**- Because they change the kinetic energy into electrical energy.**
- 2 Chemical weathering has a stronger effect than mechanical weathering.  
**- Because chemical weathering changes the structure of the rocks producing new materials.**

### 3 Mention the role of:

- 1 Greenhouses: ..... **They help farmers plant crops that only grow in warm climate** .....
- 2 Lichens in chemical weathering: ..... **They produce acids on rocks that dissolve minerals found in these rocks and break them down** .....

## Model (2)

5  
Marks

### 1 (A) Choose the correct answer:

- Both modern wind turbines and old windmills are similar in .....  
a) their ability to generate electrical energy.  
**b) using the kinetic energy of wind.**  
c) having the same number of blades.  
d) their ability to store potential energy.
- When the sea waves hit a sandcastle built on a beach, they take ..... to disappear.  
a) few years. **b) few minutes.**  
c) few months. d) many years.

### (B) Define:

- Hydroelectric energy: ..... **It is a type of electricity generated by water turbines in dams** .....
- Delta: ..... **It is a triangular-shaped landform that is formed due to the deposition of sediments or mud where rivers meet seas or oceans** .....

### 2 (A) Complete the following sentences using the words between brackets:

- When the kinetic energy of wind increases, the speed of rotation of turbine blades the .....  
(decreases – **increases**)
- Sand dunes in the Empty Quarter of the Arabian Peninsula are formed due to .....  
process. (weathering – **deposition**)

### (B) What happens when ...?

- Water is held behind dams.  
**- Water stores potential energy.**
- Sunlight falls on solar cells of some streetlights.  
**- The solar energy received by the solar cells is converted into electrical energy to operate the streetlights.**

### 3 Look at the opposite figure, then answer:

- The opposite figure represents **mechanical** weathering.
- How does this factor cause this type of weathering?  
**- Change in temperature causes the cycle of freezing and melting of water that widens the cracks and breaks the rocks apart.**



## Model (3)

5  
Marks

### 1 (A) Put (✓) or (✗):

- 1 Watermills always do their job all the time, because the water source never dries up. (✗)
- 2 Gentle winds move sand for long distances, while strong winds move sand for short distances. (✗)

### (B) What happens when ...?

- 1 Increasing the potential energy of water stored behind a dam, (According to the kinetic and electrical energy)  
**- When the water flows, its kinetic energy increases, so more electrical energy is produced.**
- 2 Layers of sediment settle at the bottom of the rivers, oceans, or in desert over many years under pressure.  
**- Sedimentary rocks will be formed.**

### 2 (A) Choose the correct answer:

- 1 The solar energy is converted into ..... energy in a water solar heater.  
a) chemical  
b) electrical  
c) radiant  
**d) thermal**
- 2 The process by which water, wind, or gravity moves sediments and soil from one place to another is ..... process.  
a) chemical weathering.  
b) **erosion.**  
c) deposition.  
d) mechanical weathering.

### (B) Mention the action of ...:

- 1 Rain when it falls on the soil of farms located beside downhill: ..... **It washes away the soil of farms causing its erosion** .....
- 2 Strong winds during deposition process: ...**They can form large sand dunes.** ...

### 3 Look at the opposite figure, then answer:

- 1 The opposite figure represents **solar panels**.
- 2 What is the energy conversion that occurs inside it?  
**- Solar energy (especially radiant energy) is converted into electrical energy.**



## Model (4)

5  
Marks

### 1 (A) Write the scientific term:

- 1 Machines that use water to grind grains. (Watermills)
- 2 The process of laying down and settlement of sediments after their erosion. (Deposition process)

### (B) Give a reason for:

- 1 Dams are built on rivers.  
- To control the water flow and increase the potential energy of water.
- 2 The Nile Delta is formed when the river meets the sea.  
- Because the sediments carried by the river are deposited there forming the delta.

### 2 (A) Choose the correct answer:

- 1 All of the following are from the uses of solar energy, except .....  
a) cooking food.    b) generating electricity.    **c) crushing grains.**    d) heating water.
- 2 All of the following are from the factors that cause erosion, except .....  
a) Earth's gravity.    b) blowing wind.  
c) water floods.    **d) change in temperature.**

### (B) What happens when ...?

- 1 A modern wind turbine operates.  
- It converts the kinetic energy of wind into electrical energy.
- 2 Oxygen in the atmosphere reacts with iron in iron-rich rocks.  
- A red rust (oxide) is formed that weakens the rocks and causes them to break easily.

### 3 Mention the role of ...:

- 1 Convergent mirrors in cooking food: ..... They convert the solar energy into thermal energy, as they collect and focus the sunlight to heat metal pots and cook food inside .....
- 2 Water in the formation of limestone caves: ..... Water dissolves the minerals in the rocks, then the dissolved minerals recombine forming new shapes (such as drippings in the limestone caves) .....

## Model (5)

5  
Marks

### 1 (A) Complete the following sentences using the words between brackets:

- 1 Water is renewed on Earth through ..... (dams – **water cycle**)
- 2 The ..... pulls down the weathered rocks along the mountainsides. (**Earth's gravity** – wind)

### (B) Look at the opposite figure, then answer:

- 1 The opposite figure represents a **dam**.
- 2 Write the energy chain that represents the function of the opposite figure.

- **Potential energy** → **Kinetic energy** → **Hydroelectrical energy**



### 2 (A) Correct the underlined word:

- 1 The difference in air amounts causes air to move and wind to blow. (**temperature**)
- 2 Sediments are liquid materials resulted from weathering of rocks. (**solid**)

### (B) Give a reason for:

- 1 Electricity generated by windmills is considered a renewable energy source.  
- **Because water is a renewable energy resource that can be replaced quickly after using it through water cycle.**
- 2 The growth of plant roots in rock cracks causes mechanical weathering.  
- **Because rocks are broken down without changing in their structure.**

### 3 (A) What are the disadvantages of using old windmills?

- **Sometimes the wind doesn't blow, so the mills don't move and can't grind (crush) the grains.**

### (B) What is the similarity between mechanical weathering and chemical weathering?

- **Both of them cause breaking down of rocks into smaller parts.**