Science

Grade 4

Second Term 2023

March Revision

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Unit Three - Concept 3
+
Unit Four - Concept 1

*** طبقاً لأخر تعديل في المادة للعام الدراسي 2022-2023**

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(1) Write the scientific term:

1) A mill that is turned by water flow. (.....)

2) A mill that is operated by wind movement. (.....)

3) The type of energy that is produced from wind turbines to operate different home devices. (.....)

4) A panel designed to absorb the energy of the Sun to generate electricity. (.....)

5) An energy that is generated from wind turbines and is transmitted through wires to houses and factories (.....)

6) A process in which water changes into water vapor. (.....)

7) A process in which a large rock is broken into small pieces. (.....)

8) Process in which the moving sediments are dropped in a new place (.....)

9) A robotic vehicle which is designed to explore the surface of Mars. (.....)

✹(2) Choose the right answer:

1. All the following are examples of renewable energy resources, except .....

a. fossil fuel. b. waterfalls. c. wind. d. sunlight.

2. Solar panels use solar energy to generate .... energy which is used in lighting houses.

a. sound b. electrical c. potential d. kinetic

3. The wind movement has ..... energy which moves the windmill's blades.

a. kinetic b. solar c. thermal d. potential

4. Solar water heater changes ..... energy into ..... energy.

a. electrical – thermal b. solar - sound

c. electrical – sound d. solar – thermal

5. The two forms of energy that transfer from the Sun to the Earth in the form of waves are ..... energy and ..... energy.

a. electrical - light b. sound - thermal

c. thermal - chemical d. light - thermal

6. When land and water areas on Earth absorb the solar energy, the ..... increases.

a. temperature on Earth b. speed of rotation of Earth

c. speed of rotation of moon d. speed of rotation of Sun

7. Kinetic energy of ..... movement is used to rotate the blades of wind turbines.

a. the moon b. stars c. water d. wind.

8. When the blades of wind turbines rotate, this causes their turbines to rotate that leads to generating ..... energy.

a. electrical b. solar c. chemical d. potential

9. The electrical energy is transmitted from wind turbines to houses through .....

a. water. b. wind . c. coal. d. wires.

10. The reason of flowing of river water downhill is the ..... force.

a. pushing b. friction c. gravitational d. electrical

11. Both waterfalls and ..... are renewable energy resources.

a. wind b. coal c. oil d. fossil fuel

12. In the water cycle, water ....., then it ..... before falling in the form of rains.

a. freezes - evaporates b. evaporates - condenses.

c. evaporates - freezes d. condenses - evaporates.

13. River water evaporates by the help of heat produced from .....

a. kettles. b. the Sun.

c. electric heaters. d. electric iron.

14. In the water cycle, the water evaporates, then it condenses in form of ..... and returns through rain falling.

a. clouds b. sand c. rocks d. coal

15. If the speed of moving water changes from 5m/sec. to ..... m/sec, its kinetic energy will increase.

a. 2 b. 3 c. 4 d. 6

16. Sand is formed due to breaking down of .....

a. glass. b. wood. c. rocks. d. plastic.

17. Rusting of a statue is an example for the action of ..... process.

a. deposition b. erosion

c. mechanical weathering d. chemical weathering

18. When water freezes, it expands. This means that .....

a. it will evaporates. b. its temperature increases.

c. its volume increases. d. its volume decreases.

19. The dropping of sediments in a new place, is known as .....

a. weathering. b. deposition. c. freezing. d. erosion.

20. The breaking of rocks into smaller particles without changing their properties is called .....

a. mechanical weathering. b. chemical weathering.

c. deposition. d. erosion.

21. Which of the following does not cause mechanical weathering? .....

a. Roots of plants. b. Acid rains.

c. Wind movement. d. Water movement.

22. The breakdown of rocks either mechanically or chemically is called .....

a. rusting. b. weathering. c. deposition. d. erosion.

23. Moving of sediments from a place to another represents ..... process.

a. weathering b. photosynthesis c. erosion d. deposition

24. A ..... is formed where rivers meet a sea.

a. delta b. mountain c. volcano d. canyon

25. As a result of breaking down of ....., sand is formed.

a. rubber b. plastic c. rocks d. glass

✹(3) Complete the following:

1. Both ..... and ..... are used to crush grain to make flour hundreds of years ago, but now we use them to generate .....
2. When we expose our bodies to the Sun, we feel .....
3. Solar cells that convert radiant energy coming from the sun rays into ..... energy.
4. The rotation of blades of wind turbines is caused by ..... energy that is created by wind movement.
5. When wind turbines rotate, ... energy is converted into ..... energy.
6. When you rub your hands together, the ..... energy is converted into ..... energy.
7. When wind blows into a wind turbine with a large force, its blades rotate ..... than that when wind blows into it with a small force.
8. By increasing the rotation of wind turbine blades, the wind turbine generates more..... energy.
9. The type of electrical energy which is produced by water turbines is called .....
10. Water and ..... are from the renewable resources of energy which use ..... energy.
11. There are two types of weathering which are ..... weathering and ..... weathering.
12. The type of weathering in which the rocks are broken down due to plant roots is known as ..... weathering.
13. The type of weathering in which the structure of rocks changes due to chemical reactions is known as ..... weathering.
14. Cracks caused by freezing of water and melting of ice represent ..... weathering.
15. Blowing of strong ..... in the desert may form large sand dunes.
16. Strong wind and hurricanes carry ..... for a long distance.
17. Gentle winds can form small ..... like that present at sea beaches.
18. The origin of sand is the breaking down of some types of .....

✹(4) Put (√) or (X) :

1. Wind turbines generate electricity by using the energy of water flow.	( )
2. Machines make our lives easier.	( )
3. Both wind movement and water flow have kinetic energy.	( )
4. Both modern wind turbines and old windmills are used to generate electricity.	( )
5. The Sun is the main source of energy on Earth.	( )
6. Living organisms don't need the Sun to survive.	( )
7. The Sun provides the Earth with light and heat.	( )
8. We have to reduce the usage of the Sun as a source of energy.	( )
9. Both wind movement and water flow have kinetic energy.	( )
10. Wind is a renewable energy resource.	( )
11. In wind turbines, the kinetic energy is converted into chemical energy.	( )
12. Wind and water are considered as nonrenewable energy resources.	( )
13. Water is used to operate wind turbines to generate electricity.	( )
14. Waterfalls are considered as nonrenewable energy resources.	( )
15. Electrical energy can be generated from both waterfalls and wind movement.	( )
16. Dams are built on rivers to control the wind flow.	( )
17. The flow of water can be controlled to generate electricity in dams.	( )
18. The energy produced by wind turbines is known as hydroelectric energy.	( )
19. Evaporated water from rivers can return back to rivers through the water cycle.	( )
20. The Sun provides the Earth with light energy and thermal energy.	( )
21. Water stream can break down rocks into smaller pieces.	( )
22. Wind can be considered one of the factors that cause weathering.	( )
23. Friction force between rocks and sand carried by wind may cause weathering.	( )
24. Water may cause mechanical and chemical weathering.	( )
25. Oxygen in air reacts with iron of some rocks forming green-colored rust.	( )
26. When water freezes, its volume increases.	( )
27. Deposition process never change the shape of the land.	( )

(5) Correct the underline

1	Solar panels use **sound** energy to generate electricity.	(.....)
2	Water turbines generate electricity by using the energy of **wind** movement.	(.....)
3	The **high** cost of producing energy in windmills is one of its advantages.	(.....)
4	In the absence of the light of **moon**, living organisms cannot survive.	(.....)
5	Thermal energy and **sound** energy are produced from the Sun and reach the Earth.	(.....)
6	**Potential** energy of the wind is converted into electrical energy by wind turbines.	(.....)
7	**Water** turbines rotate when their blades rotate as wind blows.	(.....)
8	When air blows into the wind turbine with a large force, the blades spin **slower**.	(.....)
9	Dams are built on rivers in order to generate **solar** energy.	(.....)
10	The electrical energy is generated by **wind** turbines in dams.	(.....)
11	Wind is considered as a **nonrenewable** energy resource	(.....)
12	Wind turbines convert kinetic energy into **light** energy.	(.....)
13	Greenhouses convert radiant energy coming from the Sun into **light** energy that is used to plant crops which grow in warm climates.	(.....)
14	The **Moon** is the main source of both biofuel and fossil fuel.	(.....)
15	Canyons are formed due to **fast** changes.	(.....)
16	The movement of sediments from one place to another, is known as **deposition**.	(.....)
17	Plant **leaves** grow inside the cracks of rocks which become wider.	(.....)
18	**Erosion** process means that wind or water break down rocks	(.....)

(6) TRY TO ANSWER:

1. Complete the following using the energies below. (You may use each word more than once):

(thermal – electrical – kinetic)

1. Burning of coal produces ..... energy. converted into ..... energy to move the machines of electric power stations.
2. Wind blowing produces ..... energy that moves the turbines of wind turbines.

converted into 3. ..... energy that travels through wires to houses. To operate Television.

2. Choose from column (B) what suits it in column (A):

(A)	(B)
1. Solar water heater	a. the energy that is used by wind turbines.
2. Light energy and thermal energy	b. use the energy of the Sun to heat water in homes.
3. Electrical energy	c. are the two main forms of energy produced from the Sun.
	d. is the form of energy produced from solar panels.

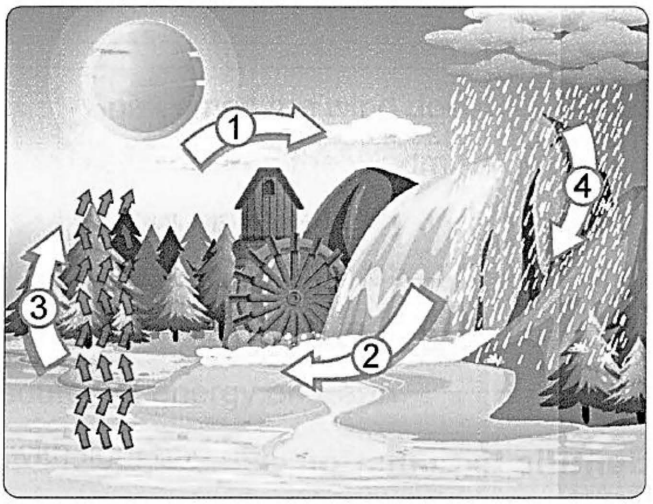
1. ..... 2. ..... 3. .....

3. Complete the following table:

Devices	Used energy	Produced energy
1. Solar panels	..... energy	..... energy
2. Wind turbines	Kinetic energy	..... energy
3. Solar water heater	Solar energy	..... energy

4.

Look at the following figure that represents the water cycle, then complete the sentences below:



1. The arrow number (.....) represents the evaporation of river's water.
2. The arrow number (.....) represents the condensation of water vapour to form clouds.
3. The arrow number (.....) represents the falling of rain that make water return back to the river.
4. The arrow number (.....) represents the water movement in waterfall that makes the watermill rotate.

5.

Study the following two figures of mountains, then complete the sentences below:

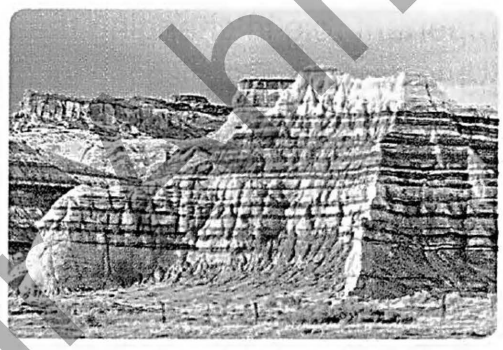


Figure (1)

Figure (2)

1. The effect of weathering process appears more clear in figure number .....
2. Sedimentary rocks appear more clear in figure number .....
3. Broken weathered rocks that pulled down by the effect of gravity appear more clear in figure number .....

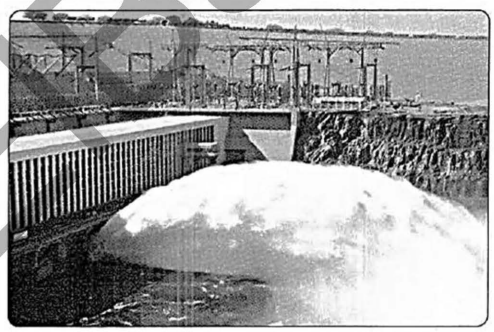
6.

(A)	(B)
1. Wind turbines	**a.** generates electricity by using the kinetic energy of running water.
2. Solar panels	**b.** generates electricity by using sound energy.
3. Water turbines	**c.** generates electricity by using solar energy.
	d. generates electricity by using kinetic energy of moving air.

1. **2.** **3.**

7.

Look at this picture that shows the High Dam that was built at Aswan many years ago, then put (✓) or (✗) in front of the following questions :



1. The stored water behind this dam has potential energy. ( )
2. The flow of water through this dam can be controlled. ( )
3. When water is released, it flows through wind turbines in the dam. ( )
4. When turbines rotate in the dam, electrical energy is generated. ( )

Model Answer

✹(1) Write the scientific term:

1. Watermill
2. Windmill
3. Electric energy
4. Solar panel
5. Electric energy
6. Evaporation
7. Weathering
8. Deposition
9. Mars rover curiosity

✹(2) Choose the right answer:

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

✹(3) Complete the following:

1. Windmill – watermill – electricity
2. Warm
3. Electric
4. Kinetic
5. Kinetic – electric
6. Kinetic – thermal
7. Faster
8. Electric
9. Hydroelectric energy
10. Wind – kinetic
11. Mechanical – chemical
12. Mechanical
13. Chemical
14. Mechanical
15. Wind
16. Sand
17. Sand dune
18. Rocks

✹(4) Put (√) or (X) :

1. (X)	6. (X)	11. (X)	16. (X)	21. (√)	26. (√)
2. (√)	7. (√)	12. (X)	17. (√)	22. (√)	27. (X)
3. (√)	8. (X)	13. (X)	18. (X)	23. (√)	
4. (X)	9. (√)	14. (X)	19. (√)	24. (√)	
5. (√)	10. (√)	15. (√)	20. (√)	25. (X)	

✹(5) Correct the underline:

1. Solar	5. Light	9. Electric	12. Electric	15. Slow	18. Weathering
2. Water	6. Wind	10. Water	13. Thermal	16. Erosion	
3. Low	7. Wind	11. Renewable	14. Sun	17. Roots	
4. Sun	8. Faster				

✹(6) TRY TO ANSWER:

1.
1. **Thermal – kinetic**
2. **Kinetic**
3. **Electric**

2.
1. **B**
2. **C**
3. **A**

3.
1. **Solar – electric**
2. **Electric**
3. **Thermal**

4.
1. **3**
2. **1**
3. **4**
4. **2**

5.
1. **2**
2. **1**
3. **2**

6.
1. **D**
2. **C**
3. **A**

7.
1. **(√)**
2. **(√)**
3. **(X)**
4. **(√)**