

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

A Training Model for  
The Science Exam  
Fourth Grade  
Second Semester  
2023-2024


نموذج تدريبي لامتحان العلوم  
الصف الرابع  
الفصل الدراسي الثاني  
2024-2023

اسم الطالب Student Name	
الصف Class	4
المدرسة School	
المادة Subject	Science

ملاحظة: هذا النموذج تدريبي لمساعدة الطلاب على فهم طبيعة ونوعية الأسئلة المتوقعة في الاختبار ولا يغني عن المذاكرة من الكتاب المدرسي.

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

## الدليل الإرشادي للامتحان Exam Guidelines

ملاحظات Comment	محتوى الامتحان Syllabus	المادة Subject	اليوم والتاريخ Day & Date
<ul style="list-style-type: none"><li>• عدد الأسئلة الموضوعية 15 سؤال، كل سؤال 4 درجات.</li><li>• عدد الأسئلة المقالية 5، كل سؤال 8 درجات.</li><li>• طريقة تطبيق الاختبار – ورقي في المدرسة</li><li>• <b>**يرجى العلم أنه قد تظهر الأسئلة بترتيب مختلف في ورقة الامتحان.</b></li></ul> <p>The number of objective questions is 15, each question worth 4 marks.</p> <p>The number of essay questions is 5, each question worth 8 marks.</p> <p>How to take the test - paper-based at school</p> <p><b>**Please note that questions may appear in a different order on the exam paper.</b></p>	<p>رابط الهيكل يرجى الضغط <a href="#">هنا</a></p> 	<p>العلوم Science</p>	<p>يوم الاختبار الاثنين 2024\3\18</p> <p>مدة الاختبار ساعتان، يبدأ من الساعة 9:00 ص – حتى الساعة 11:00 ص</p> <p>Test day is Monday 3/18/2024</p> <p>The duration of the test is two hours, starting from 9:00 am - until 11:00 am</p>

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Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
1	4-PS3-2: Students will make observations to explain how different types of energy can be transferred in various ways.		U2M1L1 page 15

<b>Q1.1</b>	<b>What kind of energy transformation takes place in the sun?</b>
<b>A</b>	chemical energy to kinetic energy
<b>B</b>	nuclear energy to light and heat energy
<b>C</b>	electrical energy to light and heat energy
<b>D</b>	chemical energy to light and heat energy

<b>Q1.2</b>	<b>Radiation from the sun is converted into .....?</b>
<b>A</b>	Heat only
<b>B</b>	Heat and light
<b>C</b>	Light only
<b>D</b>	All above is correct

<b>Q1.3</b>	<b>Computer: The <u>electrical</u> energy from the laptop is transferred into .....?</b>
<b>A</b>	Heat, sound, and light
<b>B</b>	Heat, chemical and sound
<b>C</b>	Heat and light
<b>D</b>	Nothing from above

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<b>Q1.4</b>	<b>What type of energy transformation takes place as the teacher is talking?</b>
<b>A</b>	Sound energy to electric energy
<b>B</b>	Electric energy to sound energy
<b>C</b>	Chemical energy to sound energy
<b>D</b>	Chemical energy to light energy

<b>Q1.5</b>	<b>Thermal energy is</b>
<b>A</b>	The internal energy of an object due to the kinetic energy of its particles
<b>B</b>	The external energy of an object due to its potential energy
<b>C</b>	The internal energy of an object due to the stored energy of its particles
<b>D</b>	The external energy of an object due to its exposure to the sun

<b>Q1.6</b>	<b>Which type of energy transformation do you observe when a teacher is talking?</b>
<b>A</b>	Chemical energy from food into kinetic energy and sound energy.
<b>B</b>	Chemical energy from food into potential energy and sound energy.
<b>C</b>	Thermal energy
<b>D</b>	Sound energy

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Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
2	4-PS3-2: Students will make observations to explain how different types of energy can be transferred in various ways.		U2M1L1 page 14

Q2.1	<p>Rashed placed a metal spoon in a glass of hot soup. When he touched the spoon, he found that it was hot. Rashed knew that the spoon was not hot when he put it in the soup. Which sentence best explains how this happened?</p> 
A	spoons begin heating up when they are placed into liquids.
B	thermal energy is transferred from the soup to the spoon.
C	heat is created when metals and glasses combine with one another.
D	thermal energy is transferred from the spoon to the soup.


Q2.2	How can people use thermal energy in their home?
A	Turn on the radio
B	Turn on stove
C	Turn on the fan
D	Turn on refrigerator

Q2.3	Sound energy is a type of
A	Chemical energy
B	Moving energy
C	Stored energy
D	Potential energy

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<b>Q2.4</b>	<b>When a student plays a guitar how does the sound travel to reach your ears?</b>
<b>A</b>	Using echoes
<b>B</b>	Through potential energy
<b>C</b>	Through thermal energy
<b>D</b>	Through sound waves

<b>Q2.5</b>	<b>When a battery-operated toy moves, which form of energy is being transferred to another form?</b>
<b>A</b>	Light energy to sound energy.
<b>B</b>	Mechanical energy to thermal energy.
<b>C</b>	Electrical energy to mechanical energy.
<b>D</b>	Chemical energy to electrical energy.

<b>Q2.6</b>	<b>When a person plucks the string on a guitar, ..... energy is transferred.</b>
	
<b>A</b>	Thermal
<b>B</b>	Sound
<b>C</b>	Nuclear
<b>D</b>	Electric

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Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
3	4-PS3-2: Students will make observations to explain how different types of energy can be transferred in various ways.		U2M1L1 page 23

<b>Q3.1</b>	<b>Which best describes how energy changes in a toaster?</b>
<b>A</b>	chemical to thermal
<b>B</b>	electrical to light
<b>C</b>	electrical to thermal
<b>D</b>	electrical to chemical

<b>Q3.2</b>	<b>Ahmed made the following observations in his science notebook: The radio sitting on the table made the water in my glass move. What can he conclude?</b>
<b>A</b>	Some types of energy cannot transfer through water
<b>B</b>	The sound energy of the radio transferred to the water
<b>C</b>	The electrical energy of the radio transferred through the water
<b>D</b>	Only light can move through water

<b>Q3.3</b>	<b>Which example best fits into the table below?</b>								
	<table border="1"> <thead> <tr> <th>Energy Transformation</th><th>Example</th></tr> </thead> <tbody> <tr> <td>chemical to electrical</td><td>battery powered flashlight</td></tr> <tr> <td>light to thermal</td><td>sunlight heats the sidewalk</td></tr> <tr> <td>motion to sound</td><td></td></tr> </tbody> </table>	Energy Transformation	Example	chemical to electrical	battery powered flashlight	light to thermal	sunlight heats the sidewalk	motion to sound	
Energy Transformation	Example								
chemical to electrical	battery powered flashlight								
light to thermal	sunlight heats the sidewalk								
motion to sound									
<b>A</b>	Burning candle heats up								
<b>B</b>	Plucked guitar string makes noise								
<b>C</b>	Ball rolls down a hill								
<b>D</b>	Rubbing warms hands								

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<b>Q3.4</b>	<b>Sam placed a steel spoon in a glass bowl of hot soup. He then went back to get crackers. When he touched the spoon, he was surprised to find that it was hot. Sam knew that the spoon was not hot when he put it in the soup. Which sentence best explains what happened?</b>
<b>A</b>	The radiation from the microwave bounced onto the spoon
<b>B</b>	Spoons begin heating up when they are placed into liquids
<b>C</b>	Thermal energy is transferred from the soup to the spoon
<b>D</b>	Heat is created when metals and glass combine with one another

<b>Q3.5</b>	<b>The radio sitting on a table made the water in a glass move. What can you conclude?</b>
<b>A</b>	Some types of energy cannot transfer through water.
<b>B</b>	The sound energy of the radio transferred to the water.
<b>C</b>	The electrical energy of the radio transferred through the water.
<b>D</b>	Only light can move through water.

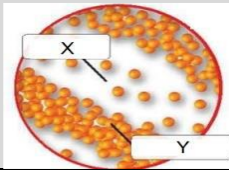
<b>Q3.6</b>	<b>Which of the following statements provides evidence that energy transform from light to thermal.</b>
<b>A</b>	Battery powered flashlights
<b>B</b>	Sunlight heats the sidewalk
<b>C</b>	Plucked guitar strings makes noise
<b>D</b>	Energy changes in a toaster




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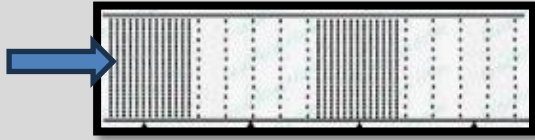
Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
4	4-PS3-2: Students will plan and carry out investigations to describe and model how energy transfers with sound and light.	Figure page 30	U2M1L2 page 30

<b>Q4.1</b>	<b>Imagine you're standing in the hallway of your school. Suddenly, you hear a loud ringing sound echoing through the corridor. You look around and see a bell hanging above the entrance door, swinging back and forth. What type of energy transformation is happening when the bell rings?</b>
<b>A</b>	Electrical energy to sound energy.
<b>B</b>	Mechanical energy to electrical energy.
<b>C</b>	Sound energy to mechanical energy.
<b>D</b>	Chemical energy to thermal energy

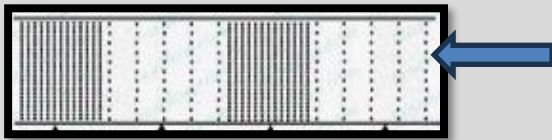
Q4.2	Label X and Y in the picture	
A	X-Compression Y-rarefaction	
B	X- Rarefaction Y- Compression	
C	X- Vibration Y- Compression	
D	X- Rarefaction Y- Vibration	

Q4.3	<div></div> <p><b>In what direction do sound waves travel?</b></p>
A	Back and forth from the source
B	Outward in all directions
C	Upward from the source
D	In a straight line

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<b>Q4.4</b>	<b>Regions of air that have many particles are called.....</b> 
<b>A</b>	vibration
<b>B</b>	compression
<b>C</b>	rarefaction
<b>D</b>	sound wave

<b>Q4.5</b>	<b>Each sound wave is made up of series of .....and .....</b>
<b>A</b>	compression and compression
<b>B</b>	rarefaction and rarefaction
<b>C</b>	compression and rarefaction
<b>D</b>	longitudinal wave and frequency

<b>Q4.6</b>	<b>Regions of air that have fewer particles are called.....</b> 
<b>A</b>	vibration
<b>B</b>	compression
<b>C</b>	rarefaction
<b>D</b>	sound wave

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Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
5	4-PS3-2: Students will plan and carry out investigations to describe and model how energy transfers with sound and light.		U2M1L2 page 32

<b>Q5.1</b>	<b>Imagine you're attending a concert at a large outdoor venue. As the sun sets, the stage lights illuminate the area, creating a vibrant display of colors. At the same time, the speakers blast music, filling the air with sound. What type of energy transformations are occurring during the concert?</b>
<b>A</b>	Light energy to electrical energy.
<b>B</b>	Electrical energy to light and sound energy.
<b>C</b>	Sound energy to light energy.
<b>D</b>	Chemical energy to thermal energy.

<b>Q5.2</b>	<b>A form of energy that allows you to see objects is _____</b>
<b>A</b>	Heat
<b>B</b>	Light
<b>C</b>	Vision
<b>D</b>	Solar energy

<b>Q5.3</b>	<b>The Earth's primary source of energy</b>
<b>A</b>	Moon
<b>B</b>	Sun
<b>C</b>	Thermometer
<b>D</b>	Water

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<b>Q5.4</b>	<b>Solar cells are devices that use light from the sun to produce .....</b>
<b>A</b>	Electricity
<b>B</b>	Sound
<b>C</b>	Heat
<b>D</b>	Chemical

<b>Q5.5</b>	<b>Light travels as tiny ..... of energy.</b>
<b>A</b>	Bundle
<b>B</b>	Space
<b>C</b>	Wave
<b>D</b>	Particles





<b>Q5.6</b>	<b>The major differences between light and sound are their speed and .....</b>
<b>A</b>	ability to travel through space
<b>B</b>	size of waves
<b>C</b>	Energy
<b>D</b>	Size

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Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
6	4-PS3-2: Students will plan and carry out investigations to describe and model how energy transfers with sound and light.		U2M1L2 page 32

<b>Q6.1</b>	<b>When you feel the warmth of sunlight on your face on a sunny day this is evidence that?</b>
<b>A</b>	The sun provides light.
<b>B</b>	Light transfers energy.
<b>C</b>	Light moves slowly.
<b>D</b>	Light has particles.

<b>Q6.2</b>	<b>Solar cells produce electricity using _____ from the Sun</b>
<b>A</b>	Heat
<b>B</b>	Light or energy
<b>C</b>	Particles
<b>D</b>	Sound

<b>Q6.3</b>	<b>Which is Earth's primary source of energy?</b>
<b>A</b>	
<b>B</b>	
<b>C</b>	
<b>D</b>	

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Q6.4	<b>Solar cells are also called.....</b>
A	IR cell
B	Photovoltaic cell
C	VU cell
D	All the above

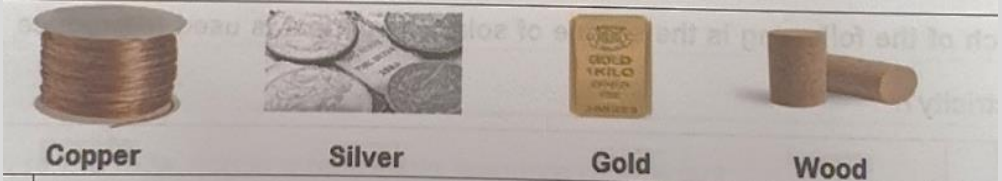
Q6.5	<p><b>Which example best fits in the last row of the table?</b></p> <table border="1"> <thead> <tr> <th>Energy Transformation</th><th>Example</th></tr> </thead> <tbody> <tr> <td>chemical to electrical</td><td>battery powered flashlight</td></tr> <tr> <td>light to thermal</td><td>sunlight heats the sidewalk</td></tr> <tr> <td>motion to sound</td><td></td></tr> </tbody> </table>	Energy Transformation	Example	chemical to electrical	battery powered flashlight	light to thermal	sunlight heats the sidewalk	motion to sound	
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A	Plucked guitar string makes noise.								
B	Burning candle heats up.								
C	Ball rolls downhill.								
D	Rubbing warms hands.								

Q6.6	<b>How can people use <u>thermal energy</u> in their home?</b>
A	Turn on the fan.
B	Turn on the radio.
C	Turn on the water faucet.
D	Turn on the toaster.

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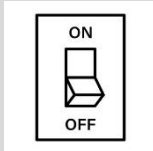
Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
7	4-PS3-2: Students will use their observations from their investigations to describe how energy is transferred by electric currents.		U2M1L3 page 48





<b>Q7.1</b>	<b>How would you define a conductor based on your understanding in science class?</b>
<b>A</b>	A component used in electrical circuits to regulate current flow.
<b>B</b>	A type of metal that is resistant to corrosion.
<b>C</b>	A substance that can conduct electricity and allow it to flow through.
<b>D</b>	A material that can conduct heat efficiently.

<b>Q7.2</b>	<b>Which of the following slows down or stops the flow of electric current?</b>
	
<b>A</b>	Copper
<b>B</b>	Silver
<b>C</b>	Gold
<b>D</b>	Wood

<b>Q7.3</b>	<b>An object in an electric circuit that resists the flow of energy is called ....</b>
<b>A</b>	magnet
<b>B</b>	compass
<b>C</b>	voltage
<b>D</b>	resistor

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<b>Q7.4</b>	<b>A switch in a circuit .....</b>
	
<b>A</b>	act as an insulator
<b>B</b>	absorbs electricity
<b>C</b>	allows or stops the flow of electricity
<b>D</b>	keeps the flow of electricity at a safe level

<b>Q7.5</b>	<b>Which symbol represents the resistor?</b>
<b>A</b>	
<b>B</b>	
<b>C</b>	
<b>D</b>	


<b>Q7.6</b>	<b>A flow of electrical charges is known as -----</b>
<b>A</b>	resistance
<b>B</b>	Electrical current
<b>C</b>	Static electricity
<b>D</b>	Volage



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Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
8	4-PS3-2: Students will use their observations from their investigations to describe how energy is transferred by electric currents.		U2M1L3 page 48

<b>Q8.1</b>	<b>How would you explain the transfer of energy in circuits?</b>
<b>A</b>	By examining the colors of wires used in circuits.
<b>B</b>	By studying the history of electrical engineering.
<b>C</b>	By analyzing the size and shape of batteries.
<b>D</b>	By observing the flow of electric current and its effects on components within the circuit.

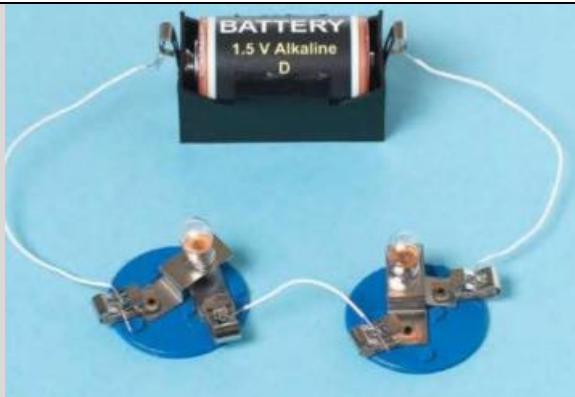
<b>Q8.2</b>	<b>A student made the circuit in the drawing below. Which does the student need to add to the circuit to make it work?</b>
	
<b>A</b>	Another bulb
<b>B</b>	Another wire
<b>C</b>	Another battery
<b>D</b>	A switch

<b>Q8.3</b>	<b>Which of the following best describes the circuit where the bulb lights up?</b>
<b>A</b>	closed
<b>B</b>	broken
<b>C</b>	parallel
<b>D</b>	open

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<b>Q8.4</b>	<b>In an electric circuit, a battery can act as a.....</b>
<b>A</b>	resistor
<b>B</b>	conductor
<b>C</b>	insulator
<b>D</b>	voltage source

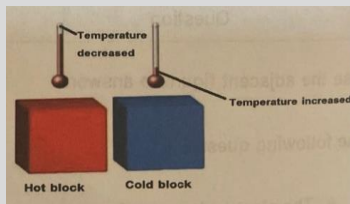
<b>Q8.5</b>	<b>An object in an electrical circuit that resists the flow of energy is called -----</b>
<b>A</b>	a magnet
<b>B</b>	a compass
<b>C</b>	a voltage
<b>D</b>	a resistor

<b>Q8.6</b>	 <p><b>This figure shows an electric circuit. This circuit is known as a _____ circuit</b></p>
<b>A</b>	Series
<b>B</b>	Parallel
<b>C</b>	Closed
<b>D</b>	Open

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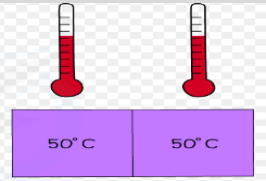
Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
9	4-PS3-2: Students will plan and carry out investigations to explain how energy can be transferred by heat.		U2M1L4 page 69

<b>Q9.1</b>	<b>What is the main difference between heat and thermal energy?</b>
<b>A</b>	Heat is a type of light energy, while thermal energy is a form of sound energy
<b>B</b>	Heat is the flow of thermal energy from a warmer object to a cooler object, while thermal energy refers to moving particles of matter.
<b>C</b>	Heat is a type of mechanical energy, while thermal energy is a form of electrical energy.
<b>D</b>	Heat is a measure of an object's internal energy, while thermal energy is a type of potential energy.

<b>Q9.2</b>	<b>What happens when a hot block touches a cold block?</b>	
<b>A</b>	Hot block temperature decreases	
<b>B</b>	Cold block temperature increases	
<b>C</b>	Both blocks particles bump into each other	
<b>D</b>	All of the above	

<b>Q9.3</b>	<b>Which of the following best explains why the temperature of the hot block decreased when placed next to the cold block?</b>
<b>A</b>	Energy transferred from the cold block to the hot block
<b>B</b>	Energy transferred from the air to both blocks
<b>C</b>	Energy transferred from the hot block to the cold block
<b>D</b>	Energy was created by the hot block

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

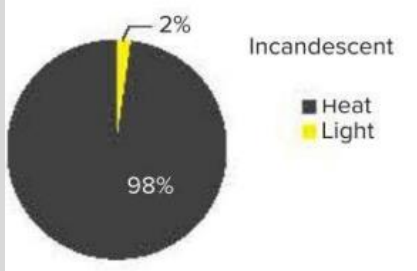
<b>Q9.4</b>	<b>What happens to the thermal energy of the blocks when they reach the <u>same temperature</u>?</b> 
<b>A</b>	energy transfers from the cold block to the hot block
<b>B</b>	energy transfers from the hot block to the cold block
<b>C</b>	thermal energy will stop flowing.
<b>D</b>	All the above

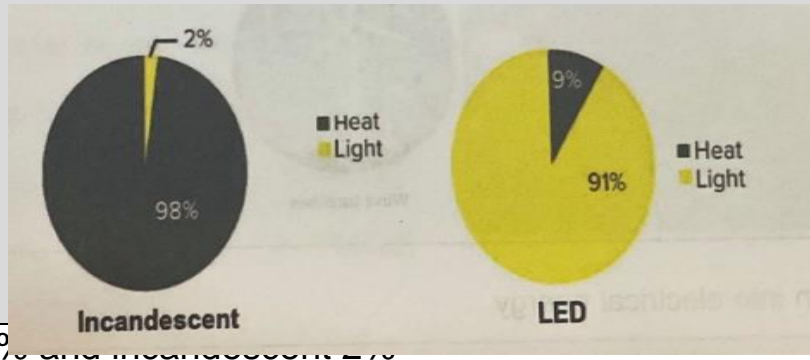
<b>Q9.5</b>	<b>Which of the following is a way that heat energy is transferred?</b>
<b>A</b>	Blowing wind
<b>B</b>	Eating food
<b>C</b>	Touching a hot stove
<b>D</b>	Turning on a flashlight

<b>Q9.6</b>	<b>Which of the following statements is true about objects with higher kinetic energy?</b>
<b>A</b>	They vibrate slower.
<b>B</b>	They vibrate faster.
<b>C</b>	They become colder.
<b>D</b>	They become heavier.

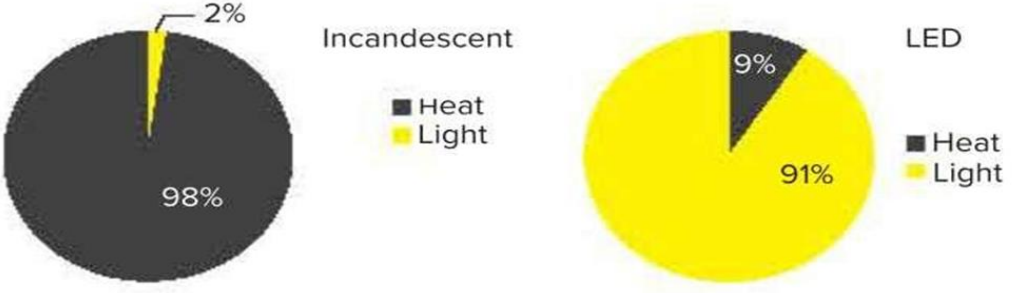
**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**


Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
10	4-PS3-2: Students will plan and carry out investigations to explain how energy can be transferred by heat.	Figure page 71	U2M1L4 page 71

Q10.1	 <p>Incandescent lightbulbs convert most of its electrical energy into _____</p>	
A	Light	
B	Heat	
C	Light and heat	
D	LED lightbulbs	

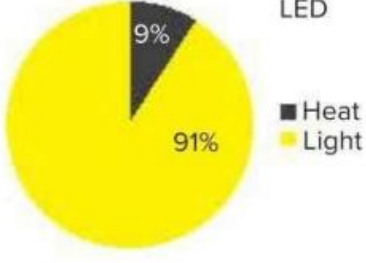
Q10.2	<p>The figure below compares the percentages of heat and light energy produced from LED and incandescent light bulbs. What is the percentage of the light that is produced from each of them?</p> 	
A	LED 91 % and incandescent 2 %	
B	LED 9 % and incandescent 2 %	
C	LED 98 % and incandescent 91 %	
D	LED 9 % and incandescent 2 %	

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Q10.3	<p>The figure below compares the percentages of heat and light energy produced from LED and incandescent light bulbs.</p>  <p>What is the percentage of the heat that is produced from each of them?</p>
A	LED 91 % and incandescent 2%
B	LED 9 % and incandescent 2%
C	LED 98 % and incandescent 91%
D	LED 9 % and incandescent 98%

Q10.4	<p>How does the matchstick catch fire?</p> 
A	sound energy is converted to thermal energy
B	friction between the match and the box.
C	friction between hand and the box.
D	none of the above

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

Q10.5	 <p><b>LED lightbulbs convert most of its electrical energy into _____</b></p>
A	Light
B	Heat
C	Incandescent lightbulbs
D	Heat and Light

Q10.6	<b>When you rub your hands together quickly what energy transfer is involved?</b>
A	Thermal energy
B	Sound energy
C	No energy transfers
D	Potential energy

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
11	4-PS3-2: Students will plan and carry out investigations to explain how energy can be transferred by heat.		U2M1L4 page 74

Q11.1

Thermal Conductivity	
Material	How Many Times Better Than Air It Conducts Heat
Oak wood	6
Water	23
Brick	25
Glass	42
Stainless steel	534
Aluminum	8,300
Copper	15,300
Silver	16,300

Look at the table above. Which are the three best conductors?

A	stainless steel, aluminum, copper
B	silver, copper, aluminum
C	aluminum, copper, brick
D	silver, copper, glass

Q11.2	<p><b>Choose the best thermal insulator from the table.</b></p> <table border="1"> <thead> <tr> <th colspan="2">Thermal Conductivity</th></tr> <tr> <th>Material</th><th>How Many Times Better Than Air It Conducts Heat</th></tr> </thead> <tbody> <tr> <td>Oak wood</td><td>6</td></tr> <tr> <td>Water</td><td>23</td></tr> <tr> <td>Brick</td><td>25</td></tr> <tr> <td>Glass</td><td>42</td></tr> <tr> <td>Stainless steel</td><td>534</td></tr> <tr> <td>Aluminum</td><td>8,300</td></tr> <tr> <td>Copper</td><td>15,300</td></tr> <tr> <td>Silver</td><td>16,300</td></tr> </tbody> </table>	Thermal Conductivity		Material	How Many Times Better Than Air It Conducts Heat	Oak wood	6	Water	23	Brick	25	Glass	42	Stainless steel	534	Aluminum	8,300	Copper	15,300	Silver	16,300
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<b>A</b>	Water																				
<b>B</b>	Glass																				
<b>C</b>	Oakwood																				
<b>D</b>	Brick																				



**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

<b>Q11.3</b>	<b>In what material will conduction be fastest?</b>
<b>A</b>	space
<b>B</b>	air
<b>C</b>	water
<b>D</b>	metal rod

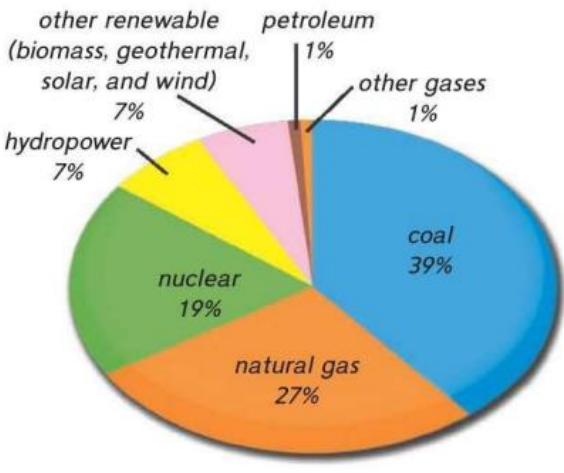
<b>Q11.4</b>	<b>Why does a fluffy winter coat keep you warm?</b>
<b>A</b>	They are heat conductors.
<b>B</b>	They are a little fuzzy.
<b>C</b>	They are electrical energy conductors.
<b>D</b>	They function as insulators.

Q11.5	Observe and find how many times better the metal silver is at thermal conduction than air.	Thermal Conductivity	
		Material	How Many Times Better Than Air It Conducts Heat
		Oak wood	6
		Water	23
		Brick	25
		Glass	42
		Stainless steel	534
		Aluminum	8,300
		Copper	15,300
		Silver	16,300
A	23		
B	534		
C	16,300		
D	42		

<b>Q11.6</b>	<b>Choose the best material that has the highest thermal conductivity.</b>
<b>A</b>	Solids
<b>B</b>	Liquids
<b>C</b>	Gas
<b>D</b>	Vacuum

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
12	4-ESS3-1: Students will obtain and combine information about the source of nonrenewable resources, and how their uses affect humans.		U2M2L1 page 97

Q12.1	 <p><b>Which nonrenewable resource generates the most amount of electricity?</b></p>
A	natural gas
B	coal
C	hydropower
D	nuclear

Q12.2	<b>What happens to the chemical energy(gasoline) in a car?</b>
A	Changes to electrical energy
B	Changes to energy of motion
C	Changes to light energy
D	Changes to sound energy

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

<b>Q12.3</b>	<b>How is the energy transformation in a lightbulb similar to starting a campfire?</b>
<b>A</b>	They both produce heat and sound
<b>B</b>	They both produce heat and light
<b>C</b>	They both produce chemical energy and electrical energy
<b>D</b>	They both produce heat and electrical energy

<b>Q12.4</b>	<b>As people eat food, they get energy and transform it as they move. What energy transformation occurs when a student starts running in the playground?</b>
<b>A</b>	mechanical to electrical energy
<b>B</b>	chemical to kinetic energy
<b>C</b>	mechanical to chemical energy
<b>D</b>	sound to electrical energy

<b>Q12.5</b>	<b>While cooking food in a microwave oven, what energy transformation takes place?</b>
<b>A</b>	Electrical to light energy
<b>B</b>	Heat to sound
<b>C</b>	Electrical to thermal energy
<b>D</b>	Sound to electrical energy


<b>Q12.6</b>	<b>Predict the energy change in a wind-up toy.</b>
<b>A</b>	Kinetic to potential
<b>B</b>	Sound to light
<b>C</b>	Thermal to electric energy
<b>D</b>	Potential ( stored) to Kinetic ( motion) energy

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
13	4-PS3-4: Students will obtain and combine information about the source of renewable resources, and how their uses affect humans.	Figure page 110	U2M2L2 page 110

<b>Q13.1</b>	<b>Where does geothermal energy come from?</b>
<b>A</b>	Wind
<b>B</b>	Rivers
<b>C</b>	Earth's heat
<b>D</b>	Solar panels


<b>Q13.2</b>	<b>Wind,, moving water, solar geothermal energy and biomass energy are all -----</b>
<b>A</b>	Non renewable
<b>B</b>	Free energy
<b>C</b>	Fossil fuels
<b>D</b>	Renewable

<b>Q13.3</b>	<b>What type of renewable energy can wood be used for?</b>
	
<b>A</b>	Solar
<b>B</b>	Wind
<b>C</b>	Biomass
<b>D</b>	Geothermal

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023


Q13.4	Which is <u>not</u> a resource that is burned to heat our homes and give us electricity?
A	natural gas
B	Coal
C	Plastic
D	Wood

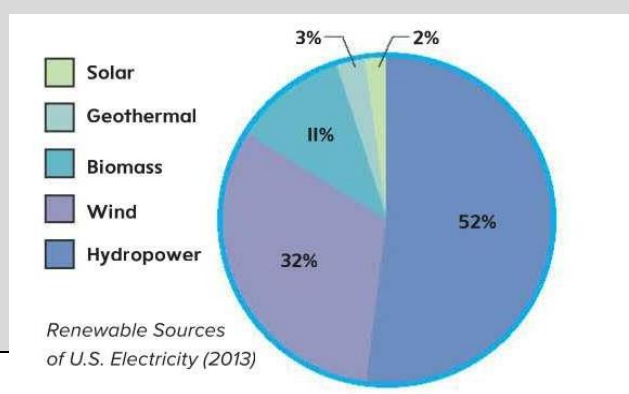
Q13.5	Which of the following best describes using hot water that lies deep inside earth to generate electricity?
A	Light energy
B	Nuclear energy
C	Geothermal energy
D	Sound energy

Q13.6	Which of the following is a renewable resource of energy?
	
A	Wood
B	Oil
C	natural gas
D	Coal

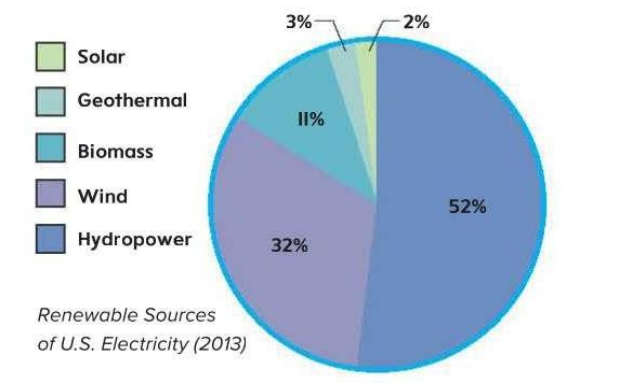
نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023


Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
14	4-PS3-4: Students will obtain and combine information about the source of renewable resources, and how their uses affect humans.	Figure page 114	U2M2L2 page 114

Q14.1	 <p><b>What do wind turbines do?</b></p>	
A	transforms the energy motion of wind into electricity.	
B	transforms thermal energy into electricity.	
C	shows the movement of wind energy.	
D	transforms electricity into wind energy.	

Q14.2	<p><b>Observe the picture. Which is the most widely used renewable resource?</b></p>  <p>Renewable Sources of U.S. Electricity (2013)</p>	
A	Solar	
B	Wind	
C	Hydropower	
D	Geothermal	

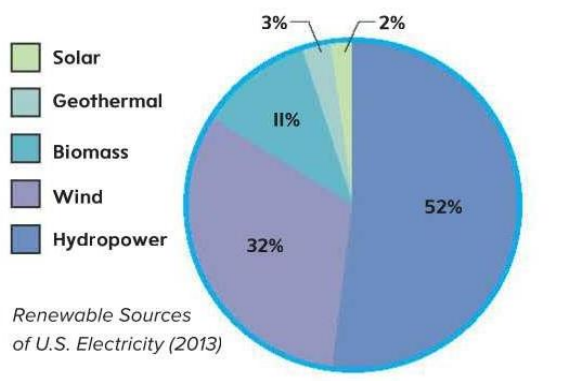
نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Q14.3	<p>Use the graph to determine how much energy was produced from wind power.</p>  <p>Renewable Sources of U.S. Electricity (2013)</p>
A	52%
B	32%
C	11%
D	2%

Q14.4	<p>The figure below shows wind turbines. What kind of energy transformation does a wind turbine do?</p> 
A	motion into electrical energy
B	chemical energy into thermal energy
C	thermal energy into mechanical energy
D	chemical energy into kinetic energy

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

**Q14.5** What renewable energy resource is the least used according to the figure.



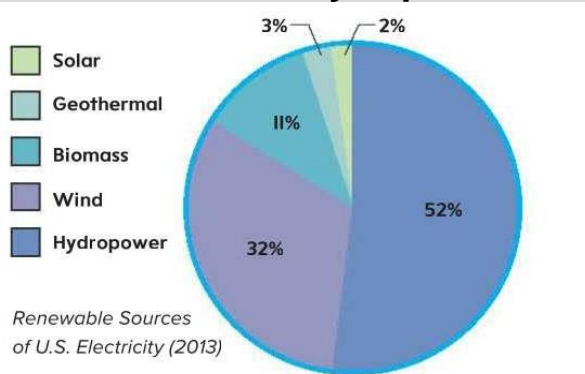
**A** Hydropower

**B** Solar

**C** Biomass

**D** Wind

**Q14.6** How much electricity is produced by using wind and water?



**A** 52%

**B** 32%

**C** 84%

**D** 43%



**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**


Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
15	4-PS3-4: Students will obtain and combine information about the effects of nonrenewable resources on the environment.		U2M2L3 page 129

<b>Q15.1</b>	<b>Which of the following is a consequence of burning coal and producing iron steel?</b>
<b>A</b>	Increased biodiversity
<b>B</b>	Reduced greenhouse gas emissions
<b>C</b>	Air and water pollution
<b>D</b>	Enhanced soil fertility

<b>Q15.2</b>	<b>Which activity causes the habitat loss of animals?</b>
<b>A</b>	Coal mining
<b>B</b>	Building dams and hydroelectric plants
<b>C</b>	Wind turbines
<b>D</b>	All of the above

<b>Q15.3</b>	<b>What effect does burning fossil fuels have on the environment?</b>
<b>A</b>	It causes birds to die
<b>B</b>	Fish can't migrate
<b>C</b>	It causes rehabilitation
<b>D</b>	It causes air pollution

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

<b>Q15.4</b>	<b>What has been cleared away in this strip-mining operation?</b>
	
<b>A</b>	plants
<b>B</b>	trees
<b>C</b>	soil
<b>D</b>	all the above

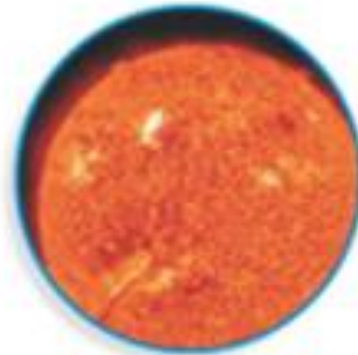
<b>Q15.5</b>	<b>Which method of generating renewable energy causes disruptions to natural migration of fish?</b>
<b>A</b>	Hydroelectric power
<b>B</b>	Wind power
<b>C</b>	Solar power
<b>D</b>	Geothermal power

<b>Q15.6</b>	<b>Which method of generating renewable energy causes harm to birds?</b>
<b>A</b>	Hydroelectric power
<b>B</b>	Wind power
<b>C</b>	Solar power
<b>D</b>	Geothermal power

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
16	4-PS3-2: Students will make observations to explain how different types of energy can be transferred in various ways.	Figure page 12	U2M1L1 page 12

**Q16.**
**Instructions: Answer the question bases on the figure below.**
**16.1 Label the 2 types of energy shown in the picture. (6)**

 energy

 energy

**16.2 Are these energies potential (stored) or kinetic (moving)?**
 (2)

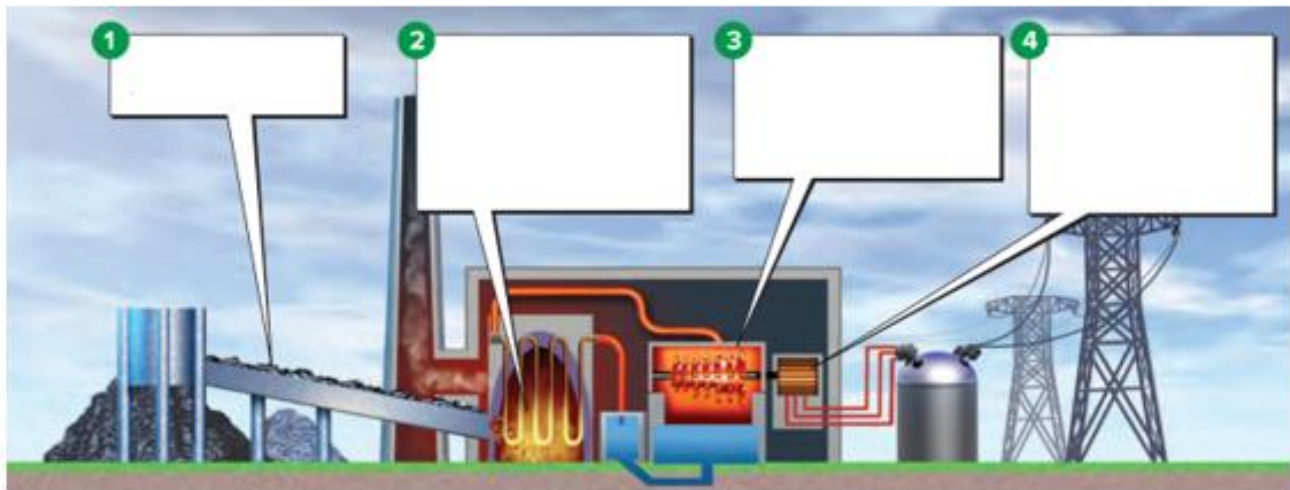
(Total score: \_\_\_\_\_ 8 marks)

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
17	4-ESS3-1: Students will obtain and combine information about the source of nonrenewable resources, and how their uses affect humans.	Figure page 95	U2M2L1 page 95

Q17.

**Instructions: Answer the question bases on the figure below.**



17.1 Circle the nonrenewable energy resource. (2)

17.2 What device converts the energy to electrical energy?

\_\_\_\_\_ (2)

17.3 Based on the figure, which step represents changing chemical energy to thermal energy?

\_\_\_\_\_ (2)

17.4 What type of energy is found in coal?

\_\_\_\_\_ (2)

(Total 8 marks)

**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
18	4-PS3-4: Students will obtain and combine information about the effects of nonrenewable resources on the environment.	Figure page 132	U2M2L3 page 132

**Q18. 1**

**Instructions: Answer the question bases on the figure below.**

**18. Look at the diagram below. List 4 ways people can conserve resources.**



**(Total 8 marks)**

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Q18.2

Recycle is the process of converting waste materials into new products.

Give an example of a recycled material and its product.

Recycle materials .....

Its product .....



نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
19	4-PS3-2: Students will plan and carry out investigations to explain how energy can be transferred by heat.	Figure page 70	U2M1L4 page 70

Q19.1

**Instructions: Answer the question bases on the figure below.**

**19.1 Label the processes below.**

**(6)**



**19.2 What type of energy is transferred?**

**(2)**

**Total marks \_\_\_\_ / 8**

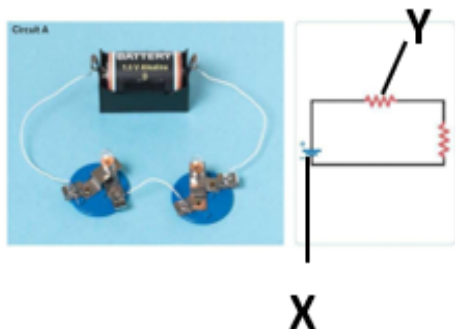
**نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023**

Question السؤال	**ناتج التعلم/ معايير الأداء Learning Outcome/Performance Criteria**	مثال/تمرين Example/Exercise	الصفحة Page
20	4-PS3-2: Students will use their observations from their investigations to describe how energy is transferred by electric currents.	Figure page 50	U2M1L3 page 50

**Q20.1**

20.

A. Identify the electric circuit. \_\_\_\_\_ (2)



B. Label the letter X \_\_\_\_\_ (2)

C. Label the letter Y \_\_\_\_\_ (2)

D. If one light was to break, what would happen to the other light in the circuit?

\_\_\_\_\_ (2)

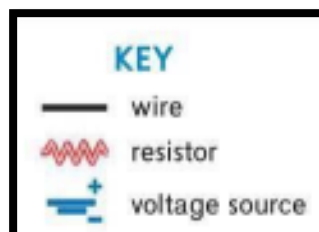
(Total 8 marks)



نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

Q20.2

Use the key to draw the circuit diagram of Circuit A and Circuit B.

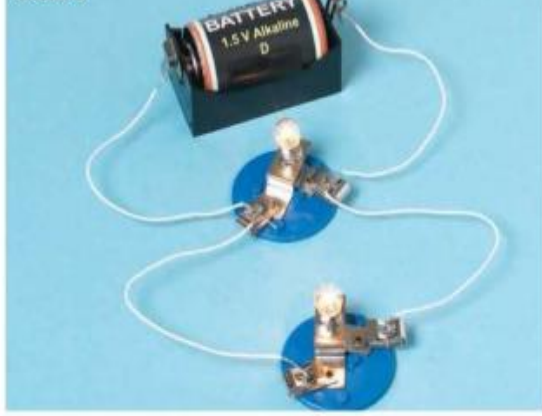


Circuit A



Circuit A

Circuit B



Circuit B

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

## دليل الإجابة

## Answer Guidelines

رقم السؤال Item	الإجابة Answer
Q1.1	(B) nuclear energy to light and heat energy
Q1.2	Heat and light
Q1.3	Heat, sound and light
Q1.4	Chemical energy to sound energy
Q1.5	A
Q1.6	A
Q2.1	(B) thermal energy is transferred from the soup to the spoon.
Q2.2	Turn on stove
Q2.3	Moving energy
Q2.4	D
Q2.5	C
Q2.6	B Sound
Q3.1	(C) electrical to thermal
Q3.2	The sound energy of the radio transferred to the water
Q3.3	Plucked guitar string makes noise
Q3.4	C
Q3.5	B
Q3.6	B
Q4.1	A
Q4.2	B
Q4.3	B Outward in all directions
Q4.4	(B) compression
Q4.5	(C) compression and rarefaction
Q4.6	(C) rarefaction
Q5.1	B
Q5.2	B
Q5.3	B The Sun
Q5.4	(A) electricity
Q5.5	(D) particles
Q5.6	(A) ability to travel through space

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

## دليل الإجابة

## Answer Guidelines

رقم السؤال Item	الإجابة Answer
Q6.1	B
Q6.2	B
Q6.3	(A) sun
Q6.4	(B) Photovoltaic cell
Q6.5	(A) Plucked guitar string makes noise.
Q6.6	(D) Turn on the toaster.
Q7.1	C
Q7.2	D
Q7.3	D resistor
Q7.4	(c) allow or stop the flow of electricity
Q7.5	B
Q7.6	B. Electrical current
Q8.1	D
Q8.2	B
Q8.3	A closed
Q8.4	(D) voltage source
Q8.5	D. a resistor
Q8.6	A
Q9.1	B
Q9.2	D
Q9.3	C Energy transferred from the hot block to the cold block
Q9.4	(C) thermal energy will stop flowing.
Q9.5	C
Q9.6	B
Q10.1	B
Q10.2	A
Q10.3	D LED 9 % and incandescent 98%
Q10.4	(B) friction between the match and the box
Q10.5	A
Q10.6	A

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

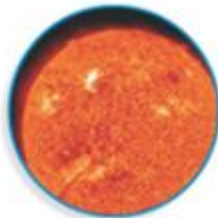

## دليل الإجابة

## Answer Guidelines

رقم السؤال Item	الإجابة Answer
Q11.1	B
Q11.2	C
Q11.3	D metal rod
Q11.4	(D) they function as insulators
Q11.5	C
Q11.6	A
Q12.1	B
Q12.2	B
Q12.3	B they both produce heat and light
Q12.4	(B) chemical to kinetic energy
Q12.5	C
Q12.6	D
Q13.1	C
Q13.2	D
Q13.3	C biomass
Q13.4	(C) plastic
Q13.5	C
Q13.6	A wood
Q14.1	A
Q14.2	C
Q14.3	B 32%
Q14.4	(A) Motion into electrical energy
Q14.5	B solar
Q14.6	C 84%
Q15.1	C
Q15.2	D
Q15.3	D it causes air pollution
Q15.4	(D) all the above
Q15.5	A hydroelectric power
Q15.6	B wind power

نموذج تدريبي لامتحان العلوم للصف الرابع الابتدائي – الفصل الدراسي الثاني 2024/2023

## دليل الإجابة Answer Guidelines

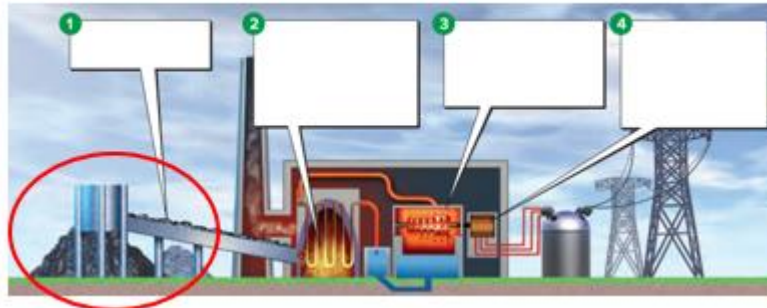
رقم السؤال Item	الإجابة Answer
Q16	<p>16.1 Label the 2 types of energy shown in the picture. (6)</p> <div></div> <div><p>chemical 3 marks</p><p>nuclear 3 marks</p></div> <p>16.2 Are these energies potential (stored) or kinetic (moving)?</p> <p>Potential or stored 2 marks (2)</p> <p>(Total score 8 marks)</p>

Q17

2023/2024

Instructions: Answer the question bases on the figure below.

نموذج تدريبي



17.1 Circle the nonrenewable energy resource. (2 marks)

17.2 What device converts the energy to electrical energy?

Generator 2 marks

17.3 Based on the figure, which step represents changing chemical energy to thermal energy?

Step 2 2 marks

17.4 What type of energy is found in coal?

Chemical 2 marks

(Total 8 marks)

Q18.1

Switch off lights/computers/devices/hot water/A/C when not using  
Carpool whenever you can  
Take shorter showers  
Any 4 relevant responses that show understanding. 2 marks per response

Q18.2

Recycle is the process of converting waste materials into new products.

Give an example of a recycled material and its product.

Recycle materials ..... Paper – Plastic – carton .....

Its product ..... Toys- bottles - building .....

Q19.1

conduction

convection

radiation



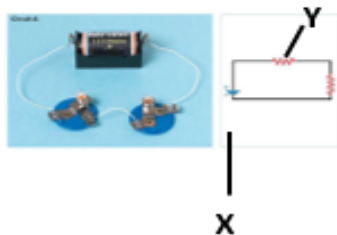
19.2 What type of energy is transferred?

thermal energy

(2)

Q20.1

20.

A. Identify the electric circuit. **series** (2)

B. Label the letter X

**Battery or voltage source** (2)

C. Label the letter Y

**Light or resistor** (2)

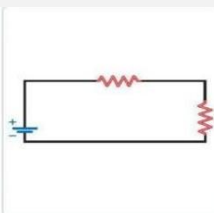
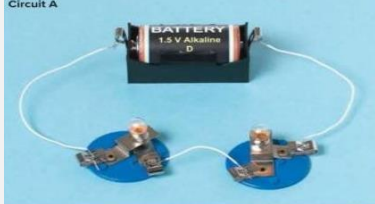
D. If one light was to break, what would happen to the other light in the circuit?

**The other light will go off.** (2)

(Total 8 marks)

Q20.2

Circuit A



Circuit B

