



Name: Grade 4/\_\_\_\_ Date:

| Types of Energy U2M1L1 :Investigates thermal energy as a form of common energy in terms of its sources and method of transmission (PAGE 12) |   |  |
|---|---|--|
| 1. Thermal energy is  |   |  |
| A   | the internal energy of an object due to the kinetic energy of its particles |  |
| В   | the external energy of an object due to its potential energy                |  |
| C the internal energy of an object due to the stored energy of its particles  |   |  |

| Types of Energy U2M1L1: Recognize ways in which electrical energy is transformed into heat, light, sound and motion. |            |  |
|--|------------|--|
| Page 14  |            |  |
| 2. Which objects use an electric current. Select all that apply  |            |  |
| A  | Flashlight |  |
| В  | Windmill   |  |
| С  | Radio      |  |
| D  | kite       |  |

| Types of Energy U2M1L1 :Investigates thermal energy as a for | rm of common energy in terms of its sources and method of |  |
|--|---|--|
| transmission (PAGE 14)                                       |   |  |
| 3. Classify the energy as STORED OR ENERGY OF MOTION         |   |  |
| Chemical energy, Nuclear energy, Thermal energy              | y, Sound Energy, Light Energy                             |  |
| STORED ENERGY  | ENERGY OF MOTION  |  |
|  |   |  |
|  |   |  |
|  |   |  |
|  |   |  |
|  |   |  |
|  |   |  |
|  |   |  |

| Types of Energy U2M1L1 : Recognize ways in which electrical energy is transformed into heat, light, sound and motion (PAGE 23) |                        |  |
|--|------------------------|--|
| 4. Which best describes how energy changes in a toaster?   |                        |  |
| A  | Chemical to thermal;   |  |
| В  | Electrical to light    |  |
| С  | Electrical to thermal  |  |
| D  | Electrical to Chemical |  |

| Types of Energy U2M1L1: Recognize ways in which electrical energy is transformed into heat, light, sound and motion (PAGE 23) |  |  |
|---|--|--|
| 5. Dan made the following observation in his science notebook.  |  |  |
| The radio sitting on my table made my water move. What can he conclude?   |  |  |
| A   | Some types of energy cannot transfer through water           |  |
| В   | Sound energy of the radio transferred to the water           |  |
| С   | Electrical energy of the radio transferred through the water |  |
| D   | Only light can move through water                            |  |





| Types of Energy U2M1L1: Recognize ways in which electrical energy is transformed into heat, light, sound and motion (PAGE |                                   |  |
|---|-----------------------------------|--|
| 23)   |                                   |  |
| 6. Energy transfer MOTION TO SOUND  |                                   |  |
| Which one below describes this energy transfer?   |                                   |  |
| A   | Burning candle heats up           |  |
| В   | Plucked guitar string makes noise |  |
| С   | Ball rolls down a hill            |  |
| D   | Rubbing warms hands               |  |

| Sound EnergyU2M1L2: concluded that sound is a wave that transfers energy from one place to another and how it is transmitted |           |  |
|--|-----------|--|
| (PAGE 30)  |           |  |
| 7. How does sound energy travel?   |           |  |
| A  | Waves     |  |
| В  | Beams     |  |
| С  | Particles |  |

| Sound EnergyU2M1L2 : concluded that sound is a wave that transfers energy from one place to another and how it is transmitted (PAGE 31) |         |  |
|---|---------|--|
| 8. Sound Waves travel fastest through   |         |  |
| A   | Solids  |  |
| В   | Liquids |  |
| С   | Gases   |  |

| Ele   | ElectricityU2M1L3: Determines that electricity flows through an electrical circuit when the circuit is closed. |             |  |
|---|--|-------------|--|
| 9. A flow of electrical charges is known as |  |             |  |
| A   |  | circuit     |  |
| В   |  | voltage     |  |
| C   |  | Electricity |  |

| ElectricityU2             | ElectricityU2M1L3: Determines that electricity flows through an electrical circuit when the circuit is closed. |  |
|---------------------------|--|--|
| 10. A switch in a circuit |  |  |
| A                         | Acts as an insulator   |  |
| В                         | Absorbs electricity  |  |
| С                         | Allows or stops the flow of electricity  |  |

| Heat U2M1L4: Describes three methods of heat transfer. Page 68   |                 |             |  |
|--|-----------------|-------------|--|
| 11. Heat moves from an object withto an object with atemperature |                 | temperature |  |
| A  | Higher to lower |             |  |
| В  | Lower to higher |             |  |

| Heat U2M1L4: Describes three methods of heat transfer. Page 70                             |   |  |
|--|---|--|
| 12. It is very hot outside and you walk barefoot on hot pavement. Predict what will happen |   |  |
| A  | The transfer of heat energy from the pavement will cause your feet to feel hot.   |  |
| В  | The transfer of light energy from the pavement will cause your feet to feel hot.  |  |
| С  | The transfer of light energy from the pavement will cause your feet to feel cold. |  |





## Heat U2M1L4: Describes three methods of heat transfer. Page 70

13. In the image below, what evidence can you gather to prove that energy is being transferred?



| A | The smoke shows that the grill is transferring heat energy to cook the food.       |
|---|--|
| В | The smoke shows that the grill is transferring sound energy to cook the food.      |
| С | The smoke shows that the grill is transferring electrical energy to cook the food. |

| Heat U2M1L4: Describes three methods of heat transfer. Page 70 |            |
|--|------------|
| 14. Earth's surface is warmed by                               |            |
| A  | Radiation  |
| В  | Conduction |
| С  | Convection |

| Energy from Nonrenewable Resources U2M2L1:Recognize the type of nonrenewable resources Page 94 |                        |
|--|------------------------|
| 15. Fossil fuels are   |                        |
| A  | Renewable resources    |
| В  | Nonrenewable resources |
| С  | Easily replaced        |

| Energy from Nonrenewable Resources U2M2L1:Recognize the type of nonrenewable resources Page 94 |  |  |
|--|--|--|
| 16. How are fossil fuels formed?   |  |  |
| A  | Heat and pressure turn animal and plant remains into fuels.                        |  |
| В  | B Scientists collect fossils and turn them into fuels.                             |  |
| С  | C Fossils sink into swamps and take between five and ten years to turn into fuels. |  |

| Energy from Nonrenewable Resources U2M2L1 :Recognize the type of nonrenewable resources Page 94 |                                 |  |
|---|---------------------------------|--|
| 17. Which statement is not true about nuclear energy?   |                                 |  |
| A   | is created using fossil fuels.  |  |
| В   | B a nonrenewable resource       |  |
| С   | C used to generate electricity. |  |



B C

Geothermal Energy



| Energy                                     | مؤسسة الإمارات SCIENCE MOCK EXAM 3  |           |
|--|---|-----------|
| Energy                                     | From renewable Resources U2M2L2 :Recognize the type of renewable resources page 110   |           |
| 18) V                                      | hy is Solar power a renewable resource?   |           |
| A  | It cannot be used up  |           |
| В  | It is a natural resource  |           |
| С  | It creates extra sunlight   |           |
|  |   |           |
| Energy                                     | From renewable Resources U2M2L2 :Recognize the type of renewable resources page 111   |           |
| 19) ) S                                    | lar energy is an alternative energy that comes from the   |           |
| Λ  | Sun   |           |
| A<br>B                                     |   |           |
|  | Moon  |           |
| С  | Earth   |           |
| Energy                                     | From renewable Resources U2M2L2 :Recognize the type of renewable resources page 111   |           |
| 20).                                       | Where does geothermal energy come from?   |           |
|  |   |           |
| A  | Inside the earth  |           |
| B  | Sun   |           |
| С  | Wind Turbines   |           |
| Fnoras                                     | From renewable Resources U2M2L2 :Recognize the type of renewable resources page 111   |           |
| 21).                                       | Geothermal power plants use the from the Earth's interior to generate power   |           |
|  |   |           |
| A  |   |           |
| A  | Heat  |           |
| В  | Water   |           |
|  |   |           |
| B<br>C                                     | Water Wind  |           |
| B<br>C<br>Energy                           | Water Wind  Wrom renewable Resources U2M2L2 :Recognize the type of renewable resources page 113   |           |
| B<br>C<br>Energy                           | Water Wind  |           |
| B<br>C<br>Energy                           | Water Wind  Wrom renewable Resources U2M2L2 :Recognize the type of renewable resources page 113   |           |
| B<br>C<br>Energy<br>22) El                 | Water Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called   |           |
| B<br>C<br>Energy<br>22) El                 | Water Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  |           |
| B<br>C<br>Energy<br>22) El<br>A<br>B<br>C  | Water Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy hydroelectricity thermal energy  |           |
| B<br>C<br>Energy<br>22) El<br>A<br>B<br>C  | Water Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy hydroelectricity thermal energy  from renewable Resources U2M2L2 :Recognize the type of renewable resources page 113   |           |
| B<br>C<br>Energy<br>22) El<br>A<br>B<br>C  | Water Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy hydroelectricity thermal energy  | ectricity |
| B<br>C<br>Energy<br>22) El<br>A<br>B<br>C  | Water Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy hydroelectricity thermal energy  from renewable Resources U2M2L2 :Recognize the type of renewable resources page 113   | ectricity |
| B C Energy 22) El A B C Energy 23) A       | Water  Wind  Wind  Crom renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  hydroelectricity  thermal energy  Crom renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  cydroelectric plant uses alternative energy sources, such as to generate electric plant uses alternative energy sources, such as to generate electric plant uses alternative energy sources.  | ectricity |
| B C Energy 22) El A B C Energy 23) A       | Water  Wind  Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  hydroelectricity thermal energy  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  sydroelectric plant uses alternative energy sources, such as to generate electric plant uses alternative energy sources, such as to generate electric plant uses alternative energy sources.   | ectricity |
| B C Energy A B C Energy 23) A A B C        | Water  Wind  Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  hydroelectricity  thermal energy  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  sydroelectric plant uses alternative energy sources, such asto generate ele  Wind  Water  sun   | ectricity |
| B C Energy 22) El A B C Energy 23) A A B C | Water  Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  hydroelectricity  thermal energy  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  sydroelectric plant uses alternative energy sources, such asto generate electric plant uses alternative energy sources, such asto generate electron renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113 | ectricity |
| B C Energy 22) El A B C Energy 23) A A B C | Water  Wind  Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  hydroelectricity  thermal energy  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  sydroelectric plant uses alternative energy sources, such asto generate ele  Wind  Water  sun   | ectricity |
| B C Energy 22) El A B C Energy 23) A A B C | Water  Wind  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  ctricity produced from flowing water is called  geothermal energy  hydroelectricity  thermal energy  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  sydroelectric plant uses alternative energy sources, such asto generate electric plant uses alternative energy sources, such asto generate electron renewable Resources U2M2L2 :Recognize the type of renewable resources page 113  From renewable Resources U2M2L2 :Recognize the type of renewable resources page 113 | ectricity |





| Impact of Energy Use U2M2L3 :Explore the effect of obtaining and using energy resources Page 128 |              |
|--|--------------|
| 25) The overuse of fossil fuels leads to   |              |
| A  | Pollution    |
| В  | Flooding     |
| С  | Fertile soil |

| Impa | Impact of Energy Use U2M2L3 :Explore the effect of obtaining and using energy resources Page 132 |  |  |
|------|--|--|--|
| 26)  | 26) When an item is it is made into a new product  |  |  |
| A    | Reduced  |  |  |
| В    | Reused   |  |  |
| С    | Recycled   |  |  |

### Design Energy Solutions U2M2L4 : Design Energy Solutions page 144

## 27. How does the solar panel solve a design problem?



| A | It transforms energy without producing air pollution. |
|---|---|
| В | It transforms sunlight energy to wind energy.         |
| С | It uses nonrenewable resources for power.             |

| Design Energy Solutions U2M2L4: Design Energy Solutions page 144                           |            |
|--|------------|
| 28. Engineers designing a new energy efficient product will make the first model, called a |            |
| A  | Prototype  |
| В  | Constraint |
| С  | Criteria   |

| 29. Match the meaning to the words |  |
|------------------------------------|--|
| Engineer                           | an original or first model of something from which other forms are developed |
| Prototype                          | something that limits or restricts someone or something                      |
| Criteria                           | a series of steps that engineers follow to solve a problem                   |
| Design process                     | one who designs solutions to problems  |
| Constraint                         | a standard on which a judgement or decision is based                         |

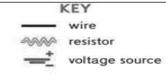


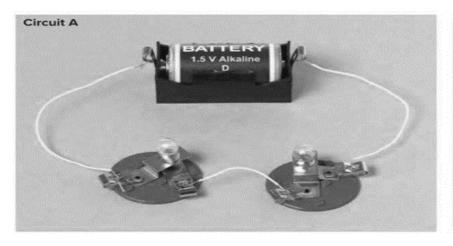


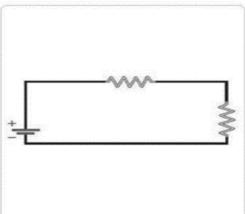
### 30- Electricity: Build a simple circuit Page 50

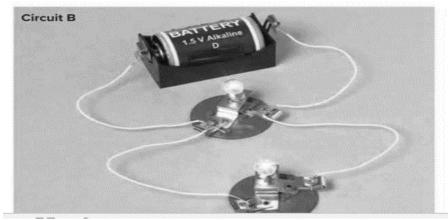
#### Label a Diagram: Electric Circuits

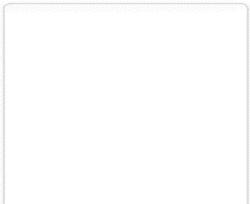
Circuit A has been drawn for you. Use the key to complete the circuit diagram for Circuit B.















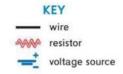
| <u>Answers</u> |           |
|----------------|-----------|
| 1              | A         |
| 2              | B AND C   |
| 3              | SEE BELOW |
| 4              | C         |
| 5              | В         |
| 6              | В         |
| 7              | A         |
| 8              | A         |
| 9              | C         |
| 10             | C         |
| 11             | A         |
| 12             | A         |
| 13             | A         |
| 14             | A         |
| 15             | В         |
| 16             | A         |
| 17             | A         |
| 18             | A         |
| 19             | A         |
| 20             | A         |
| 21             | A         |
| 22             | В         |
| 23             | В         |
| 24             | C         |
| 25             | A         |
| 26             | C         |
| 27             | A         |
| 28             | A         |
| 29             | SEE BELOW |
| 30             | SEE BELOW |

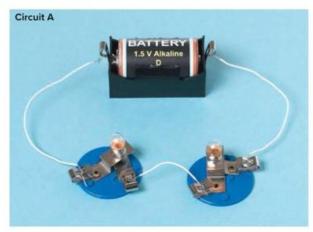


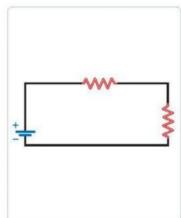


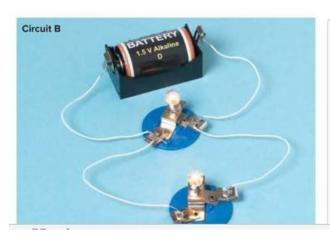
#### Label a Diagram: Electric Circuits

Circuit A has been drawn for you. Use the key to complete the circuit diagram for Circuit B.











## **SCIENCE MOCK EXAM 3**



| 28 Match the meaning to the words |  |
|-----------------------------------|--|
| Engineer                          | an original or first model of something from which other forms are developed |
| Prototype                         | something that limits or restricts someone or something                      |
| Criteria                          | a series of steps that engineers follow to solve a problem                   |
| Design process                    | one who designs solutions to problems  |
| Constraint                        | a standard on which a judgement or decision is based                         |







| Stored Energy                      | Energy of Motion   |
|------------------------------------|--|
| chemical energy,<br>nuclear energy | electrical energy,<br>thermal energy,<br>sound energy, light<br>energy |