حل أسئلة مراجعة شاملة وفق منهج انسباير

موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف الرابع ⇦ علوم ⇦ الفصل الثاني ⇦ حلول ⇦ الملف	
تاريخ إضافة الملف على موقع المناهج: 2025-03-09 22:37:54	
المزيد من مادة علوم:	ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس
	إعداد: Mohammed Hala

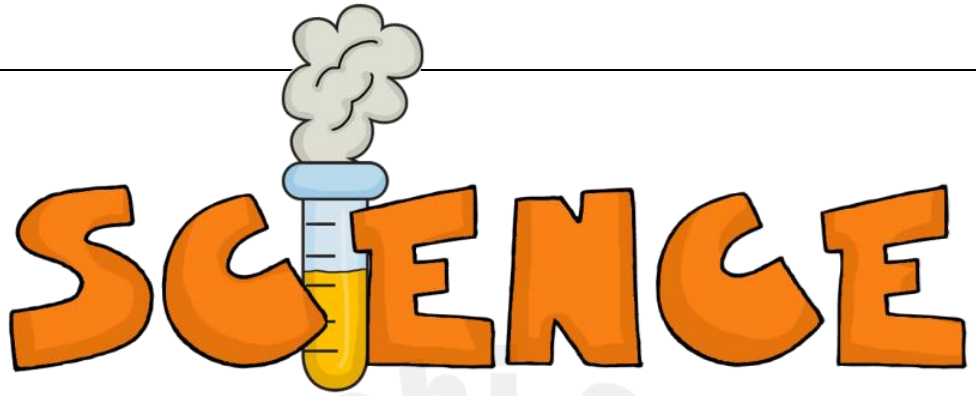
التواصل الاجتماعي بحسب الصف الرابع

صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف الرابع والمادة علوم في الفصل الثاني

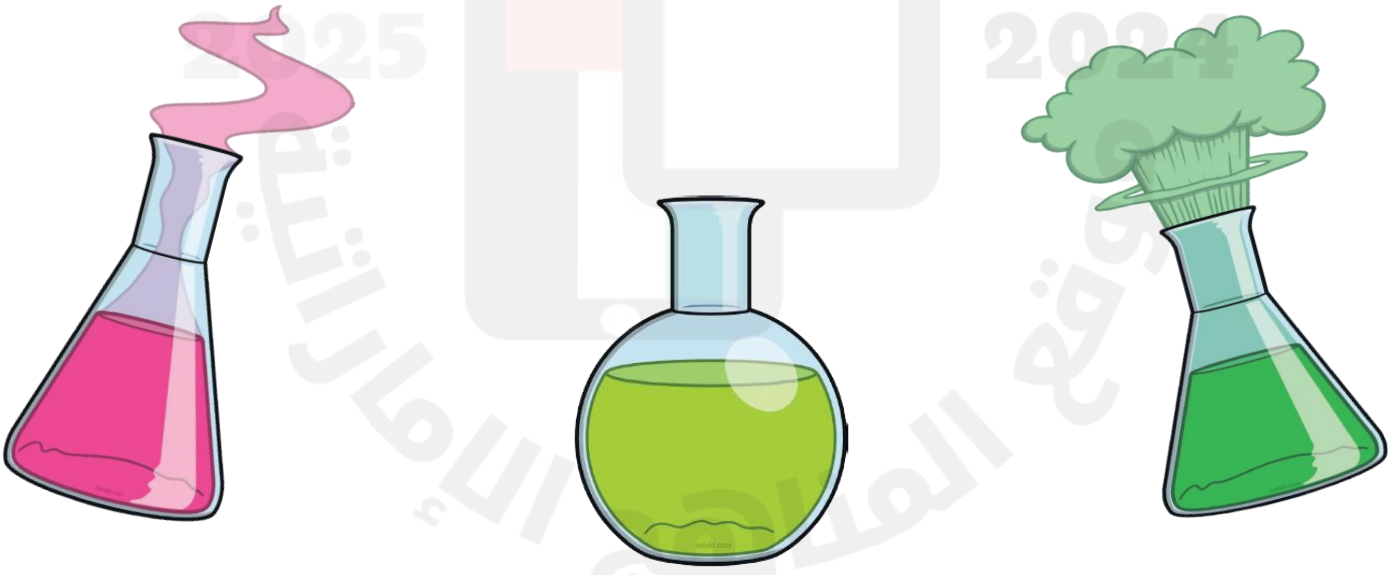
1	أسئلة مراجعة شاملة وفق منهج انسباير
2	أوراق عمل مراجعة للامتحان النهائي متبوعة بالإجابات
3	نموذج اختبار تدريبي متبوع بالإجابات منهج انسباير
4	أسئلة الامتحان النهائي القسم الورقي منهج انسباير
5	حل نموذج تدريبي لاختبار نهاية الفصل

Name: _____



EOT 2 Revision

Inspire Science – Grade 4

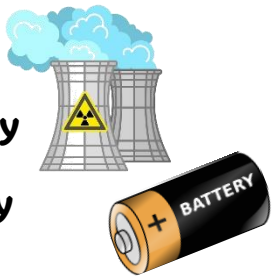


Ms. Hala Mohammed - Al Ghaith School

2024 – 2025

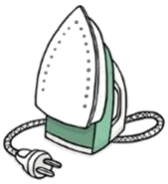
Lesson 1: Types of Energy

1. What are 2 examples of potential energy?



a. Light energy
b. Thermal energy
c. Chemical energy
d. Nuclear energy

2. What is the energy transformation an iron makes?



a. Light → Thermal
b. Electrical → Light
c. Electrical → Thermal
d. Electrical → Sound

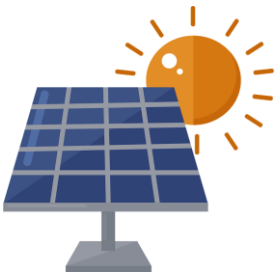
3. Why are there no sounds heard in space?

a. Because there is no light in space
b. Because there is no medium in space (no solids, liquids and gases)
c. Because there is air in space
d. Because the space is too far away

4. Sounds are made when things:

a. Vibrate
b. Are pulled
c. Move up and down
d. Are pushed together

5. What do solar cells do?



a. They change light energy → Electricity
b. They change light energy → Chemical energy
c. They change sound energy → Light energy
d. They change Electrical energy → Light energy

6. What energies do fireworks have/give off? [Choose 4]

a. Nuclear energy b. Light energy c. Chemical energy

c. Thermal energy d. Electrical energy e. Sound energy

7. Dan made the following observation: The radio sitting in the table made the water in my glass move. What can he conclude?

a. Some types of energy cannot transfer through water

b. The sound energy of the radio transferred to the water

c. The electrical energy of the radio transferred to the water

d. Only light can move through water

8. Which statement about a lamp is correct?

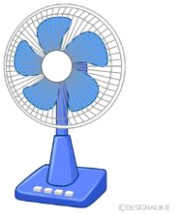
a. Changes heat → electricity b. Changes light → electricity

c. Changes electricity → light + thermal

9. You are asked to design a product that will change 'electrical energy → thermal energy'. Which device would best suit this description?

a. Fan b. TV c. Alarm clock d. Hairdryer

10. What is the energy transformation that happens when you turn a fan on?



a. Electrical → motion (kinetic) b. Electrical → heat

c. Electrical → Light

Rememeber: Energy transfer → energy is not changing -- Energy transformation → energy is changing

11. Identify each picture as 'energy transfer' or 'energy transformation'.

 Transfer	 Transformation
 Transformation	 Transfer
 Transfer	 Transformation

12. Name 3 forms of kinetic energy.

1. Light energy
2. Sound energy
3. Electrical energy

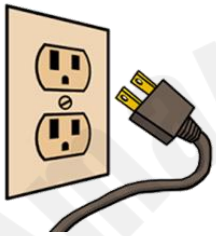
Thermal energy

13. Use the word bank below to describe each energy transformation.

Light energy	Chemical energy	Sound energy	Thermal energy	Electrical energy

→

Chemical energy → Light energy



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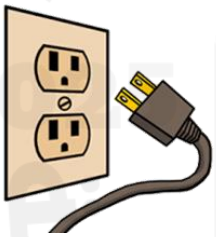
Electrical energy → Thermal energy



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Electrical energy → Light energy, Sound energy

14. Name the form of energy:

Thermal – Nuclear – Sound – Electrical – Chemical – Light

Chemical

Light

Thermal

Electrical

Sound

Nuclear

15. Classify each form of energy above as kinetic or potential.

Kinetic energy	Potential energy
Light energy	
Thermal energy	Chemical energy
Electrical energy	Nuclear energy
Sound energy	

16. Circle all boxes that show that energy is moving from one place to another.

thunder claps loudly	a light bulb lights up	a car crashes into a wall
ice cubes stay frozen in the freezer	an ice cube melts in the hot sun	an electric fan turns
hot water cools off	wood burns in a fireplace	a book sits on a shelf
a car horn beeps	a baseball bat hits a ball	a bowling ball knocks over pins

What kinds of evidence show that energy is moving from one place to another?

Seeing something moves

Hearing a sound

Feeling something becomes hot or cold

17. Read the descriptions then label the photo:

1 Window with Sunlight:
The radiation from the Sun is converted to heat and light in the classroom.

2 Teacher Talking:
The teacher transforms chemical energy from food into kinetic energy and sound energy.

3 Computer:
The computer transforms electrical energy into light, sound, and thermal energy.

4 Student Building a Model:
The student transforms chemical energy from food into kinetic energy when he uses his hands to build a model.

18. Read the table below, then choose the best example to fill in the blank box.

Chemical → Electrical	Battery powered flashlight
Light → Thermal	Sunlight heats the sidewalk
Motion → Sound	_____

a. Burning candle heats up

b. Plucked guitar strings makes noise

c. Ball rolls down hill

d. Rubbing warms hands

19. What types of energy transfers and transformations that happen when you flip a light switch at your house?

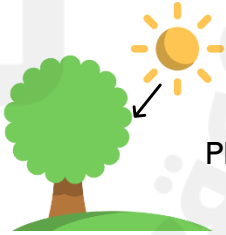
Transfer: electrical energy is transferred through wires to the light.

Transformation: Electrical energy is transformed into light + thermal energy

20. Identify the energy transformations in each of the pictures below:

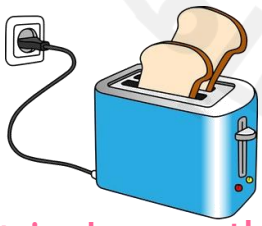
Matchstick

Chemical → thermal and light



Photosynthesis

Light → chemical



Toaster

Electrical → thermal

Solar calculator

Light → electrical

Lesson 2: Sound and Light

21. Light energy is:

a. Kinetic energy b. Potential energy

22. Sound energy is:

a. Kinetic energy b. Potential energy

23. What causes the drum to make sound when hit?

a. Moving up and down b. Vibration

24. How does sound energy move?

a. In waves b. In a straight line

25. Which type of wave are sound waves?

a. Transverse wave b. Longitudinal wave

26. How do longitudinal waves move?

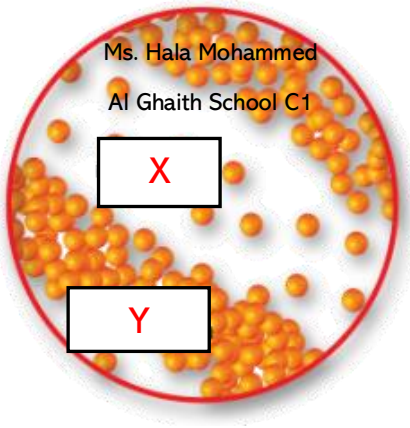
a. Back and forth b. Up and down

27. Where can sound waves move?

a. Solids and liquids only b. Gases only c. Solids, liquids and gases

28. What does the letter X represent?

a. Rarefactions b. Compressions



29. What does the letter Y represent?

a. Rarefactions b. Compressions

30. What is the highest point in a sound wave called?

a. Peak b. Dip

31. What is the lowest point in a sound wave called?

a. Peak b. Dip

32. Sound needs a _____ to move through.

a. Vacuum b. Light c. Shadow d. Medium

33. Sound travels the fastest in:

a. Solids b. Liquids c. Gases

34. Sound travels the slowest in:

a. Solids b. Liquids c. Gases

35. What part of sound energy is needed for it to travel?

a. Shadows b. Light c. Vibrations d. Heat

36. How are light and sound energies the same?

a. Both move in waves b. Both move in straight lines

c. Both move in vacuum

37. How are light and sound energies different?

a. Light moves in waves, but sound moves in straight lines

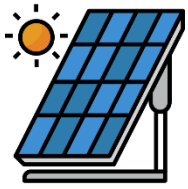
b. Light needs a medium to move through, but sound does not

c. Light does not need a medium to move, but sound needs a medium

38. A wave that transfers energy through a medium and moves in all directions is a:

a. Light wave b. Sound wave c. Vibration

39. Solar cells change light energy from the Sun into:



a. Sound b. Electricity c. Light d. Heat

40. Light energy can move without a medium (like in space).

a. True

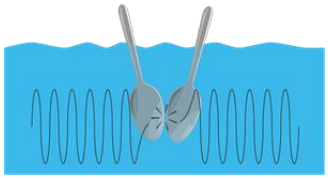
b. False

41. Identify the medium in which sound is moving through:

(solid, liquid, gas)

Liquid

Solid

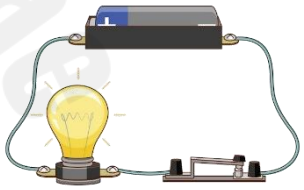


Liquid

Gas

Lesson 3: Electricity

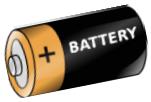
42. A path in which electricity flows is called a:



a. Current **b. Circuit**

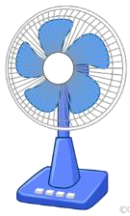
c. Switch **d. Resistor**

43. What is another name for a battery in a circuit?



a. Resistor **b. Switch** **c. Wire** **d. Voltage source**

44. What is another name for a fan in a circuit?



a. Resistor **b. Switch** **c. Wire** **d. Voltage source**

45. Electric current in a circuit moves through:

a. The switch **b. The wires** **c. The resistor**

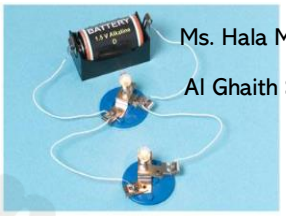
46. A device that resists the flow of electricity in a circuit is the:

a. Wire b. Switch c. Resistor d. Voltage source

47. The flow of charges through the wires, to make a device work is:

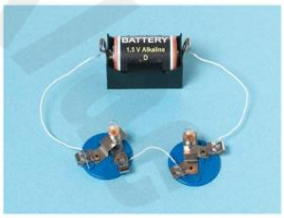
a. Conductors b. Insulators c. Electric current

48. What is the type of this circuit?



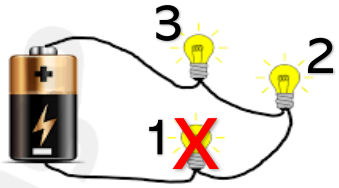
a. Series circuit b. Parallel circuit

49. What is the type of this circuit?



a. Series circuit b. Parallel circuit

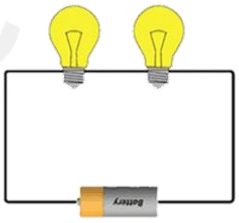
50. What would happen to the other lights if light 1 was removed?



a. Light 3 will work b. Light 2 will work

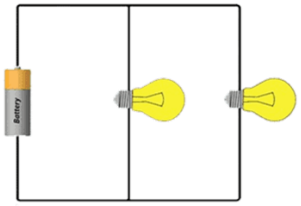
c. All lights will not work d. All lights will work

51. If you remove 1 light from a series circuit, what will happen to the other light?



a. It will work b. It will not work

52. If you remove 1 light from a parallel circuit, what will happen to the other light?



a. It will work b. It will not work

53. Which type of circuit is used in houses, schools and malls?

a. Series circuit b. Parallel circuit

54. What is a short circuit?

a. A circuit with no switch b. A circuit with no wires

c. A circuit with no voltage source d. A circuit with no resistor

55. A(n) _____ is a material that slows or stops the flow of energy.

a. Conductor b. Insulator c. Battery d. Flashlight

56. A(n) _____ is a material that lets energy flow through.

a. Conductor b. Insulator c. Battery d. Flashlight

57. Which 2 objects are electrical conductors? [Choose 2]

a. Wood  b. A key 

c. A spoon  d. A T-shirt 

58. What is the role of the switch in a circuit?

a. Slowing down the flow of energy

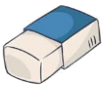
b. Providing energy

c. Opening and closing the circuit

d. Changing electrical energy into other forms of energy

59. Which of the following objects is an electrical insulator?

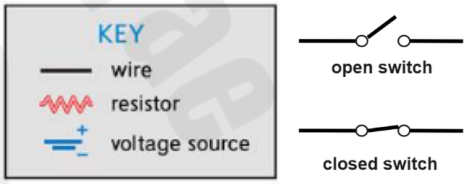
a. An iron nail 

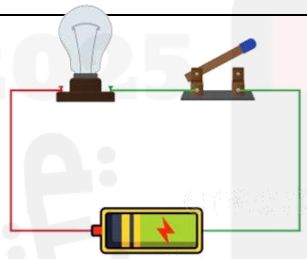
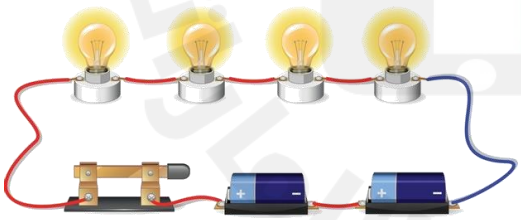
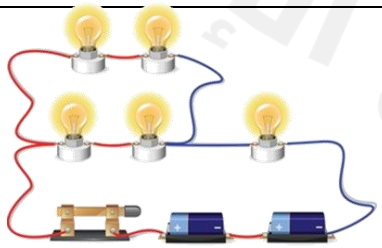
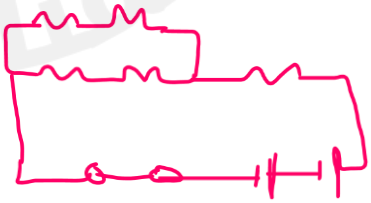
b. An eraser 

c. Coins 

d. A Key 

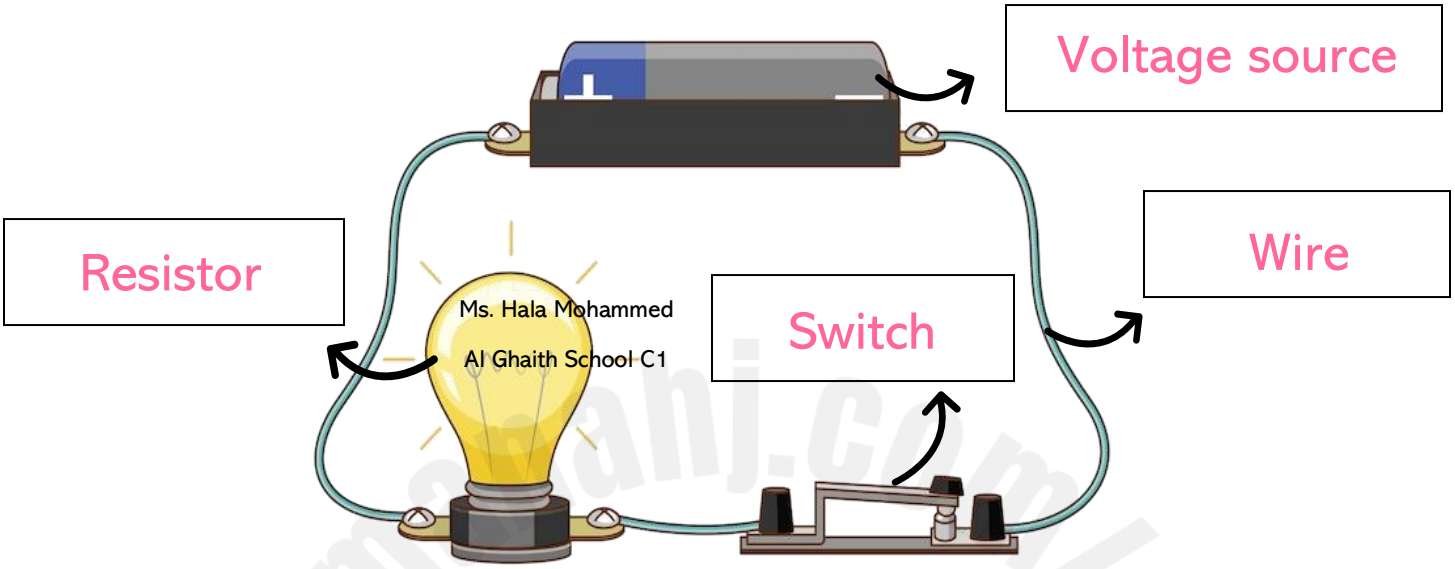
60. Use the key to draw the following circuits:



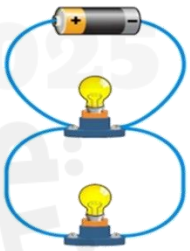
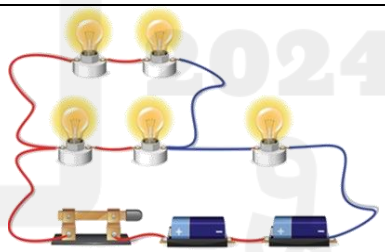
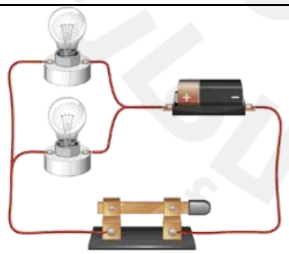
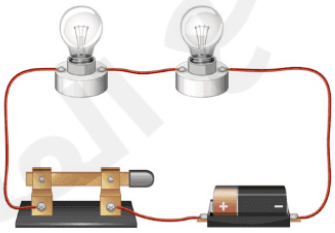
	
	
	

61. Label the parts of a circuit:

Wire – Voltage source – Resistor – Switch

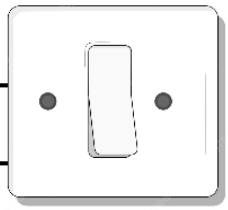


62. Identify the type of each circuit (series – parallel):

 Parallel	 Parallel
 Parallel	 Series

63. What role does a switch play in a circuit?

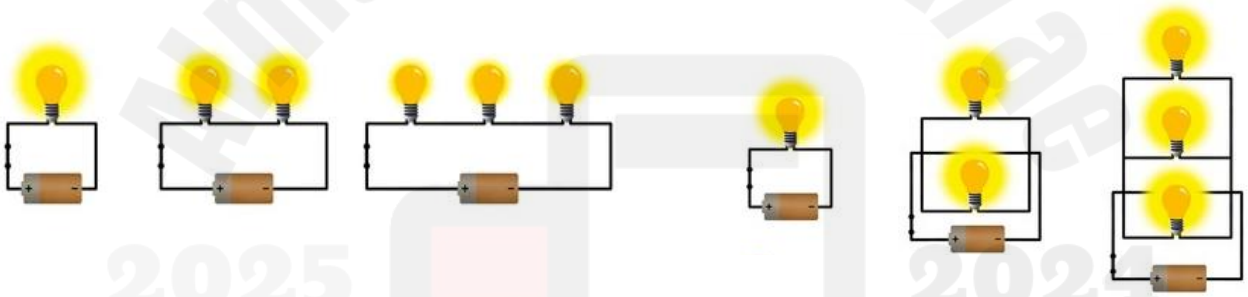
Opens and closes the circuit



64. What happens to the brightness of bulbs each time you add another one?

Series circuit: Lights become less bright

Parallel circuit: Brightness stays the same



Lesson 4: Heat

65. What is the thermal energy?

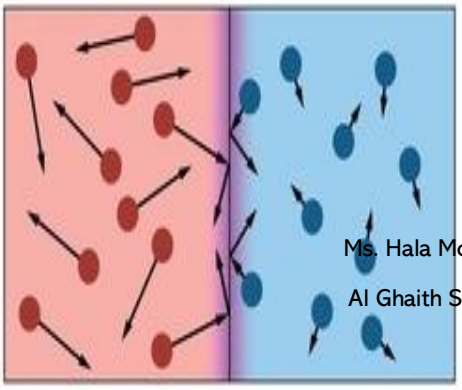
a. The energy when particles make sound

b. The energy when particles move

c. The energy when particles make light

66. How do hot particles move?

a. Fast b. Slowly



67. How do cold particles move?

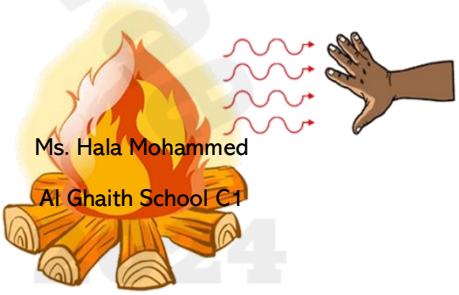
a. Fast b. Slowly

68. Which particles have more energy?

a. Hot particles b. Cold particles

69. Which particles have less energy?

a. Hot particles b. Cold particles



70. How does heat move?

a. From cold → hot b. From hot → cold

71. Choose all 3 methods for heat transfer. [Choose 3]

a. Conservation b. Conduction c. Radiation

d. Transformation e. Vibration f. Convection

72. Aysha put a spoon in her coffee. How does heat move here?

a. From the spoon → the coffee

b. From the coffee → the spoon

73. Materials that conduct heat poorly are called:

a. Conductors
b. Insulators

74. Materials that conduct heat well are called:

a. Conductors
b. Insulators

75. When you rub your hands together, what energy do you make?

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a. Electrical energy
b. Light energy
c. Chemical energy
d. Thermal energy

76. Which of the following is a good thermal conductor?

a. Paper cup 
b. Iron 
c. Wool 
d. Wood 

77. Which of the following is a good thermal insulator?

a. Aluminum 
b. Silver 
c. Plastic 
d. Copper 

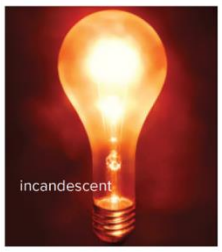
78. Thermal energy is:

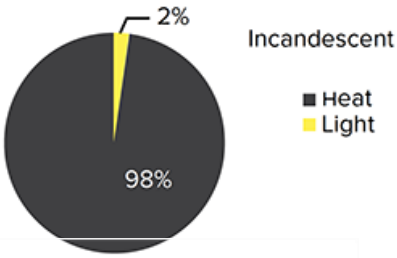
a. Kinetic energy
b. Potential energy

79. What is the percentage of heat produced by the LED bulb?

a. 98% b. 91%

c. 9% d. 2%

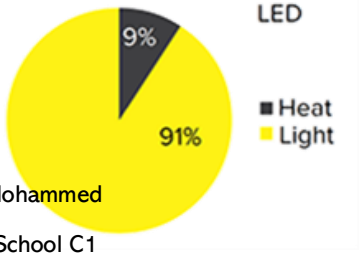




80. What is the percentage of heat produced by the incandescent light?

a. 98% b. 91%

c. 9% d. 2%



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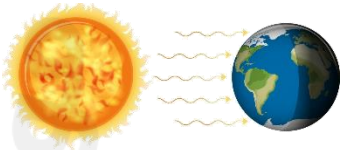
81. Which light wastes so much energy as heat?

a. Incandescent b. LED

82. Which light is better?

a. Incandescent b. LED

83. How does the heat from the Sun travel to Earth?

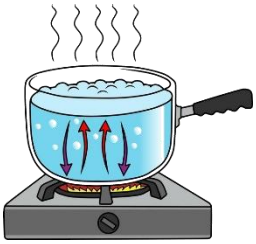


a. Conduction b. Convection c. Radiation

84. How is heat being transferred in this picture?

a. Conduction b. Convection c. Radiation

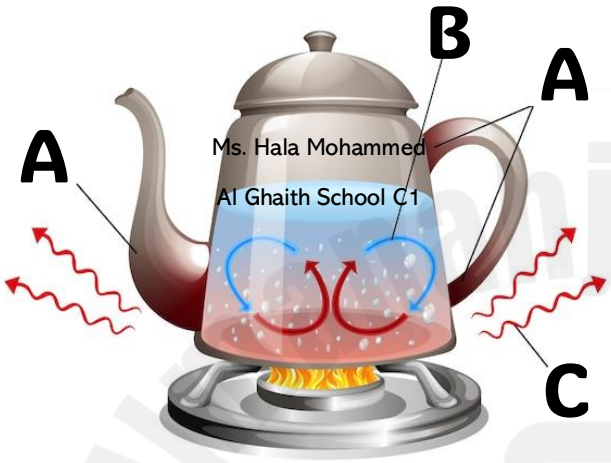
85. How is heat being transferred in this picture?



a. Conduction b. Convection c. Radiation

86. Label the letters with the correct heat transfer method:

Convection – Radiation – Conduction



A: Conduction

B: Convection

C: Radiation

87. Label each object as conductor or insulator.

 Insulator	 Conductor	 Conductor	 Insulator
 Insulator	 Conductor	 Insulator	 Conductor

88. Study the table then answer:

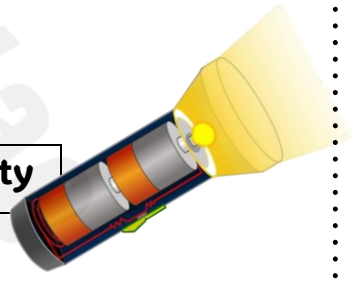
Which material is the best thermal conductor? Use evidence to explain your answer.

Silver, because it is a solid and a metal, and because it is 16,300 times better that 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

89. Use the word bank below to fill in the blanks.

Energy	Switch	Wire	Light	Heat	Electricity



1. When you turn on the ___switch___, electricity flows to the lightbulb.
2. The ___wire___ carries the electricity to the lightbulb.
3. The lightbulb changes ___electricity___ energy into other types of energy.
4. The lightbulb gives off ___light___ so we can see.
5. It also gives off ___heat___, which makes it warm.
6. This shows how ___energy___ changes from one form to another.

90. Explain what happens if the circuit in the flashlight is broken?

Series circuit: the light will not work

Parallel circuit: the light will work

Lesson 5: Energy from Nonrenewable Resources

91. Things found in nature and are useful to people are called:

a. Natural resources **b. Man-made resources**

92. Natural resources are:

a. Only living things **b. Only non-living things**

c. Can be living and non-living

93. Natural resources can be:

a. Only renewable **b. Only nonrenewable**

c. Can be renewable and nonrenewable

94. What does a 'nonrenewable resource' mean?

a. It is a resource that is made over and over

b. It is a resource that can run out (finish)

c. It is a resource that only includes living things (animals and plants)

95. Rocks, soil, air, sunlight and minerals are all examples of living natural resources.

a. True **b. False**

96. Circle all the living natural resources:

a. Wind 
b. Coal 
c. Animals 
d. Plants 
e. Rocks 
f. Oil 

97. What are the 3 fossil fuels?

a. Wind
b. Oil (petroleum)
c. Biofuel
d. Natural gas
e. Coal
f. Rocks

98. Circle all nonrenewable resources.

a. Minerals
b. Coal
c. Biofuel
d. Natural gas
e. Oil (petroleum)
f. Nuclear energy

99. Which fossil fuel is the most plentiful, and is used to make electricity?

a. Coal
b. Oil (petroleum)
c. Natural gas

100. Which fossil fuel is used for cooking and heating?

a. Coal
b. Oil (petroleum)
c. Natural gas

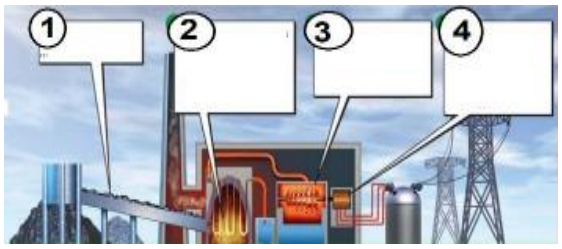
101. What is the energy coal has?

a. Thermal energy
b. Electrical energy
c. Chemical energy
d. Light energy

102. Which step shows changing chemical energy → thermal energy?

a. 1 b. 2

c. 3 d. 4



103. Which statement is not true about nuclear energy?

a. Nuclear energy is created from fossil fuels

b. Nuclear energy waste can be dangerous

c. Nuclear energy is used to generate (make) electricity

d. Nuclear energy is a nonrenewable resource

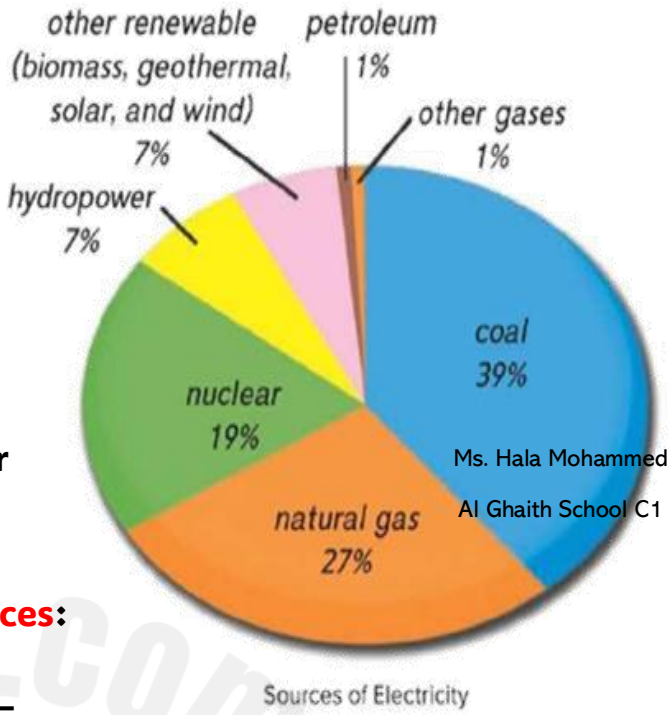
104. Gasoline and diesel are made from:

a. Coal b. Oil (petroleum) c. Natural gas

105. Circle the box that contains a fossil fuel.

Oil	Wood	Wind
Sun	Water	Coal
Natural gas	Living things	Heat from inside the Earth
Corn	Animals	Gasoline

106. Study the graph then answer the following questions:



1. Which of the following is not a fossil fuel?

a. Natural gas **b. Coal**

c. Petroleum **d. Hydropower**

2. List all the nonrenewable resources:

a. Coal

b. Natural gas

c. Nuclear

d. Petroleum

3. What is the total percentage of the nonrenewable resources?

Coal = 39% Natural gas = 27% Nuclear = 19%

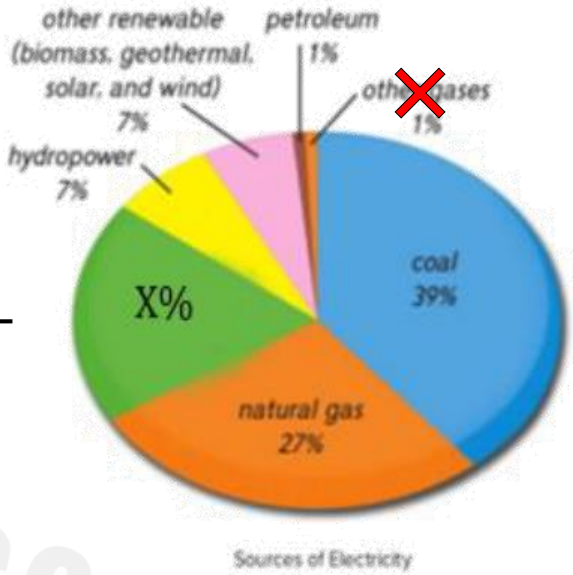
Petroleum = 1%

39 + 27 + 19 + 1 = 86%

4. Name a nonrenewable resource that is not made from fossil fuels

Nuclear energy

107. Study the graph then answer the following questions:



1. **What is the percentage of nuclear Energy (X)?**

39 + 27 + 7 + 7 +1 = 81%

Nuclear energy = 100 – 81 = 19%

Add all the numbers then subtract from 100

2. **Based on the graph, what is the total percentage of the nonrenewable resources that are used to generate electricity?**

Coal = 39% Natural gas = 27%

Nuclear = 19% Petroleum = 1%

39 + 27 + 19 + 1 = 86%

Lesson 6: Energy from Renewable Resources

108. _____ is a useful material that is replaced quickly in nature.

a. A renewable resource **b. A nonrenewable resource**

c. Coal **d. Oil**

109. Choose all examples of renewable resources.

a. Coal
b. Air
c. Water
d. Natural gas
e. Oil (petroleum)
f. Wind

110. Energy from the Sun that is used to make electricity is called:

a. Hydroelectricity
b. Nuclear energy
c. Solar Energy
d. Wind energy

111. Energy from the wind that is used to make electricity is called:

a. Hydroelectricity
b. Wind energy
c. Geothermal Energy
d. Solar energy

112. Energy from water that is used to make electricity is called:

a. Hydroelectricity
b. Wind energy
c. Geothermal Energy
d. Solar energy

113. Heat energy taken from inside the Earth that is used to make electricity is called:

a. Geothermal energy
b. Solar energy
c. Biofuel
d. Wind energy

114. A fuel made from living things, or things taken from living things

a. Fossil fuel b. Gasoline c. Diesel d. Biofuel

115. Wood, crops and animal waste are all part of:

a. Nonrenewable resources b. Biomass

c. Fossil fuel d. Nuclear energy

116. Burning biomass gives us:

a. Fossil fuel b. Biofuel c. Natural gas d. Coal

117. What is the energy transformation that happens when you burn biomass?

a. Thermal → Light + fuel b. Chemical → Electrical + fuel

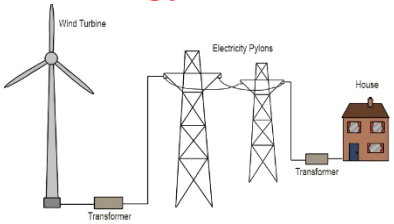
c. Chemical → Sound + fuel d. Chemical → Thermal + fuel

118. What is the energy transformation involved in solar energy?

a. Light → Electricity b. Light → Thermal

c. Thermal → Light d. Thermal → Electricity

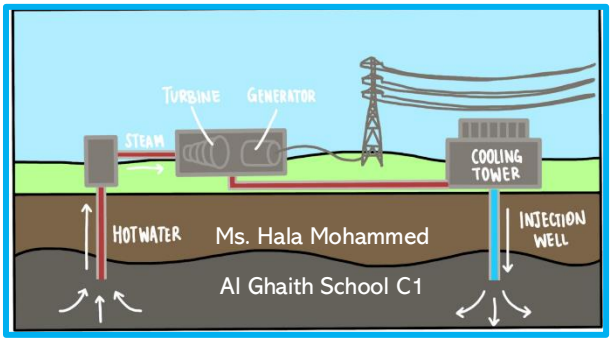
119. What is the energy transformation involved in wind energy?



a. Electricity → Kinetic b. Kinetic → Electricity

c. Electricity → Thermal d. Kinetic → Light

120. What is the energy transformation involved in geothermal energy?



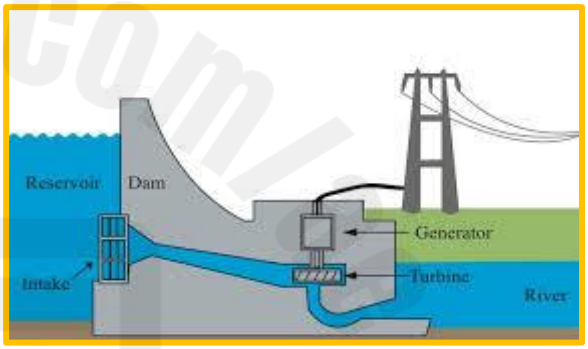
a. Kinetic → Thermal → Electicity

b. Thermal → Kinetic → Light

c. Thermal → Thermal → Electricty

d. Thermal → Kinetic → Electricity

121. What is the energy transformation involved in hydroelectricity?



a. Kinetic → Thermal → Electicity

b. Kinetic → Kinetic → Electricity

c. Thermal → Kinetic → Electricty

d. Thermal → Light → Electricity

122. Circle all boxes that contains a renewable energy source.

Oil	Wood	Wind
Sun	Water	Coal
Natural gas	Living things	Heat from inside the Earth
Corn	Fossil fuels	Gasoline

123. Use the word bank below to name each energy source.

Geothermal energy	Nuclear energy	Hydroelectricity	Solar energy
Biofuel	Wind energy	Oil (petroleum)	Tidal energy

Wind energy

Biofuel

Hydroelectricity

Oil

Nuclear energy

Solar energy

Tidal energy

Geothermal energy

124. Classify the pictures below as renewable or nonrenewable.

Biomass

Renewable Energy	Nonrenewable Energy
B D E F G H	A C

125. Write true ✓ or false ✗ for each sentence below:

a. Solar energy is a nonrenewable resource (False)

b. Coal is a renewable source because it can be made again quickly (False)

c. Trees are a renewable source because we can plant new trees (True)

d. Biomass energy comes from the Sun (False)

e. Wood and food waste can be used to make biomass energy (True)

126. Choose an answer then fill in the blanks:

a. Biomass energy comes from _____living_____ things like plants and trees. (nonliving / living)

b. People burn _____plants_____ to make biomass energy.
(fossil fuel/ plants)

c. Biomass energy is _____renewable_____ because we can grow more plants. (renewable / nonrenewable)

127. Name each renewable energy source:

Biomass

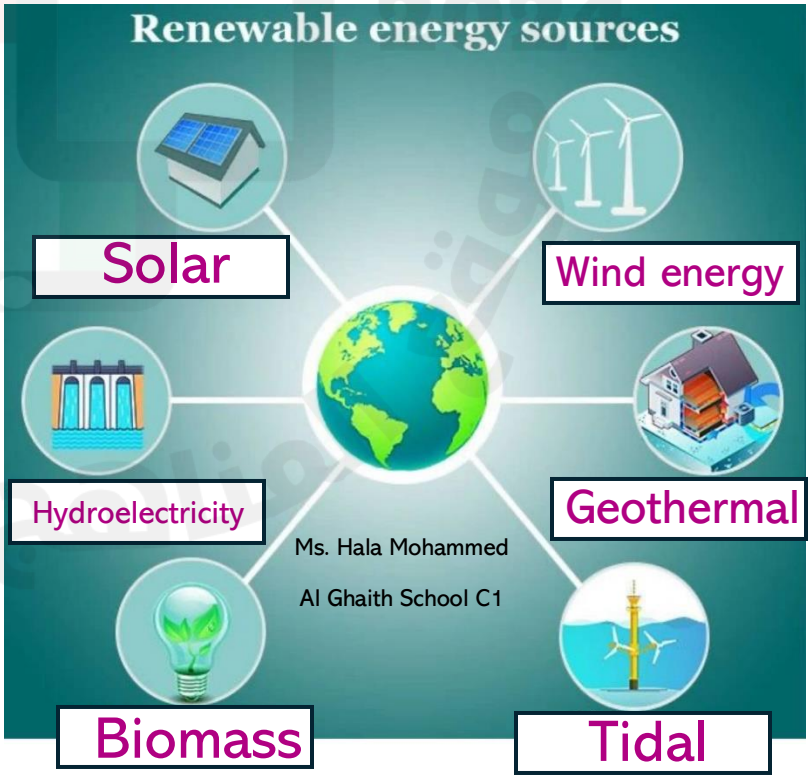
Geothermal energy

Wind energy

Solar energy

Hydroelectricity

Tidal energy



Lesson 7: Impact of Energy Use

128. How does using fossil fuels affect the environment?

a. Using fossil fuels makes the quality of the air better

b. Using fossil fuels requires burning them, which pollutes the air

c. Using fossil fuels makes ocean water cleaner

129. The overuse of fossil fuels leads to:

a. Landslides b. Floods c. Pollution d. Better soil

130. Which of the following can we use to power cars AND conserve resources at the same time?

a. Using biofuels b. Using oil (petroleum) c. Using gasoline

131. Burning fossil fuels can release bad substances which makes the environment dirty. This is called:

a. Pollution b. Conservation c. Recycling

132. All renewable energy sources do not cause pollution.

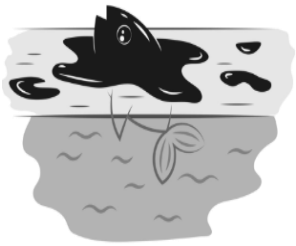
a. True b. False

133. Which renewable energy sources do not cause pollution? [Choose 4]

a. Solar energy b. Geothermal energy c. Wind energy

d. Biofuel e. Hydroelectricity f. Fossil fuels

134. How does an oil spill affect the animals in the ocean?



a. It helps them swim faster

b. It provides extra food for them

c. It will be hard for the animals to breathe, some might die

d. It has no effect on the animals

135. What does habitat loss mean?

a. When animals cannot find food

b. When animals become sick

c. When animals cannot find water

d. When animals lose their homes

136. How can people cause habitat loss?

a. By planting more trees

b. By cutting down trees

c. By reducing pollution

d. By making laws to protect animals

137. What has been cleared away in this strip mining operation?

a. Trees b. Plants c. Soil d. All

138. The act of saving and using resources wisely is called:

a. Conservation

b. Conduction

c. Convection

d. Pollution

139. How can you conserve?

a. By using so much plastic

b. By reducing waste

c. By wasting water and electricity

d. By polluting land and water

140. What are the 3 R's?

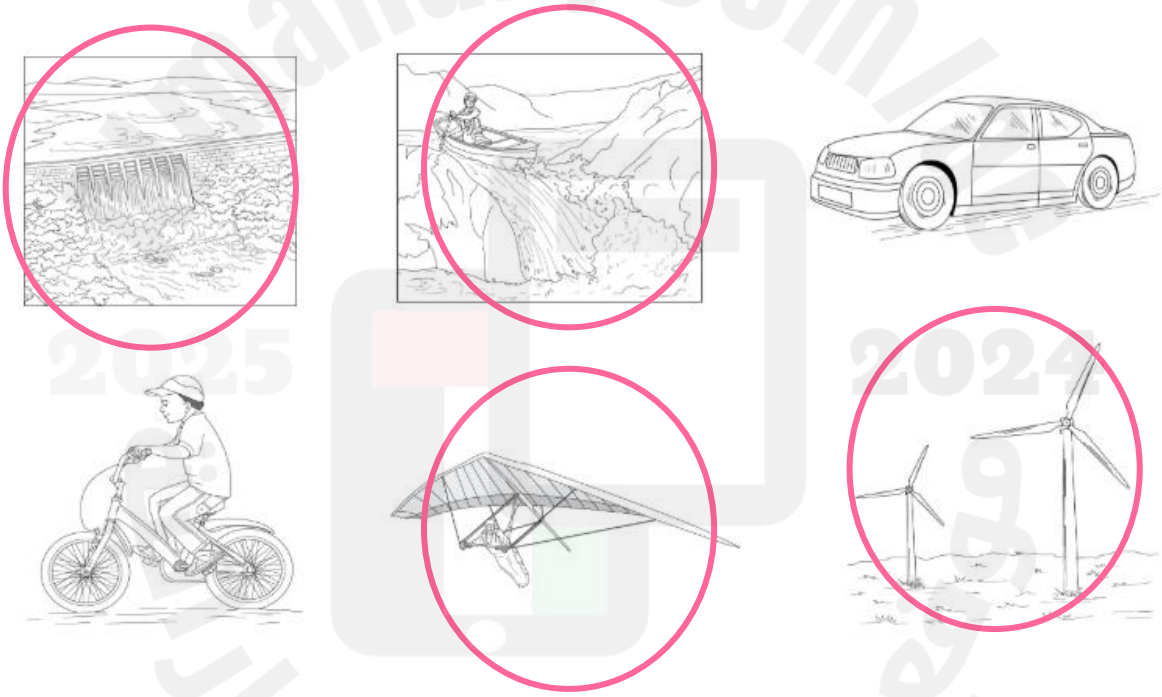
a. Rebuild, Restore, Repair

b. Remove, Reuse, Recycle

c. Reduce, Reuse, Recycle

d. Reduce, Remake, Remember

141. Circle all pictures that show how we use the energy from moving water and air.



142. Explain how our use of energy resources affects the environment

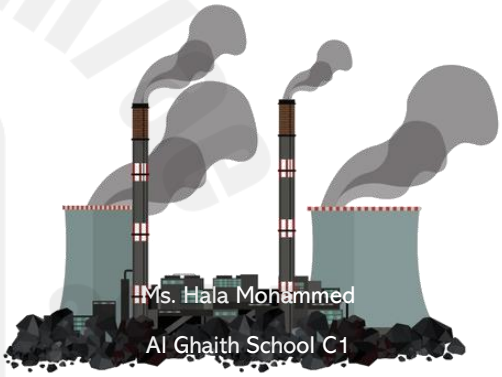
1. Using fossil fuels can cause pollution
2. Digging for oil and coal can cause habitat loss
3. Using wind energy can kill birds

143. What has been cleared away in this strip mining operation? How can this affect the animals that live there?

Soil, rocks and trees. This can cause animals to lose their homes (habitat loss).

144. How does burning fossil fuels affect the environment?

Burning fossil fuels causes air pollution.



145. Why is it important to conserve natural resources?

So that they do not finish.