

Thermal Energy:

1-Thermal energy is:

- a-The external energy of an object due to its potential energy
- b-The internal energy of an object due to the kinetic energy of its particles
- c-The internal energy of an object due to the stored energy of its particles

2- What happened if you put metal spoon in cup of hot soup?

- a-Spoons begin heating up when they are placed into liquids.
- c-Thermal energy is transferred from the hot soup to the spoon.
- d-Heat is created when metals and glasses combine with one another.

3-The stove, heater and match can all produce energy:

- a- Light
- b-Thermal
- c-Sound

4-What happened to the thermal energy when substance get warmer or hotter?

- a-Decrease
- b- Increase
- c-Nothing

5-Thermal energy it kind of : a-Potential energy b-Stored energy c-Kinetic energy

6-Burning wood its type of chemical energy that stored energy and released it when wood burning as energy. a-Thermal b- Nuclear c-Electricity

Electrical Energy:

1- Type of energy come from movement charged particles or chemical energy that stored in batteries. A-Nuclear b-Light c-Electricity

2- What type of energy does the electrical energy become in iron مكواة:

- a-Light energy
- b-Thermal energy
- c-Nuclear energy

3- The lightbulb changes electrical energy into light energy. This is an example of?

- a-Energy transformation
- b- Energy exchange
- c-Energy being created

4-Chemical energy inside batteries change into when they used in devices:

- a-Sound
- b- Nuclear
- c-Electricity

5-Most of our electricity come from power plant which burn To make electricity.

- a-Fuel
- b-wood
- c-metal

6-How energy change in a toaster?

a-Chemical to thermal

b-Electrical to light

c-Electrical to thermal

7-Put correct number in

1-Chemical to electrical

2-Motion to sound

3-Light to thermal

empty place:

.....Sunlight heats the sidewall

.....Battery powered flashlight

.....Beating the drum

Sound Energy:

1- Wave that transfers energy through a material and spreads outward in all directions from a vibration. **a-Light wave** **b-Electricity** **c-Sound wave**

2-In space sound **cannot** hear because of:

a-No air in space, so there is no medium to carry sound waves.

b-Space is a vacuum with no particles to travel through.

C- All of them.

3-Sound is:

a-vibrations **b-Series of compressions and rarefactions** **c-Waves** **d-all of them.**

4- Substance where sound can travel: **a-Medium** **b-cell** **c-wave**

5- Arrange these items according to the speed of sound 1 is fastest:

(.....) **Ais as gas**

(.....) **Water as liquid**

(.....)**Steel as Solid.**

6-Why sound travel fastest in solid?

a-Partials are close together, so they collide quickly.

b-Partials are far apart so they collide quickly.

c-Partials little close together so they no collide quickly.

7-Sound waves are: **a-Longitudinal waves** **b-Transvers waves** **c-Seismic wave**

Light and Stored energy:

1-Light energy is: **a- Wave** **b-Particles** **c- Kinetic** **d-All of them.**

2-Light energy travel fastest through: **a-Glass** **b-Vacuum space** **c-Water**

3-Firewark stored their potential energy in: **a-Nuclear** **b-Chemical** **c-Fuel**

4-When firework goes off energy release as:

a-Heat, nuclear

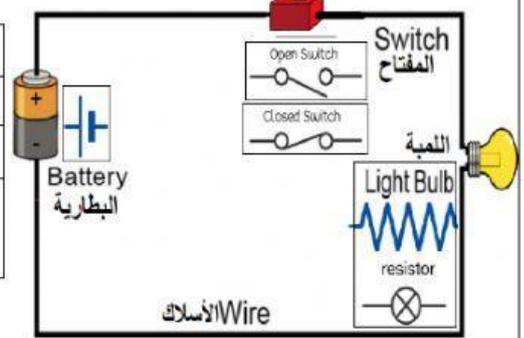
b-Light, sound, thermal

c-Chemical, thermal, electrical

Electricity Current: 1-Connect each part of circuit to its roll in electrical circuit:

- 1- Battery
- 2- Lightbulb
- 3- Wire
- 4- Switch

- A-(.....)Object resist flow of energy
- B-(.....)Open and close circuit path
- C-(.....)Voltage source
- D-(.....) Carry electrical charge between all parts of circuit.

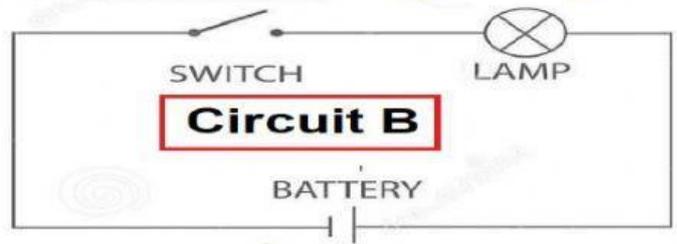
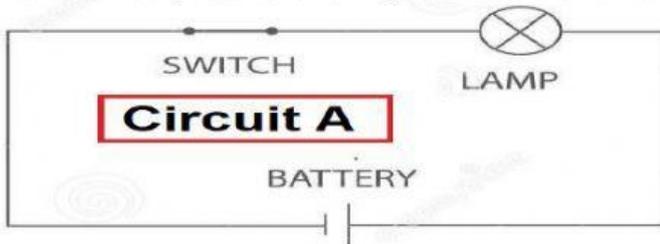


2- Connect switch job in electrical circuit correctly: وظيفة المفتاح في الدائرة الكهربائية:

- 1-Switch Open
- 2-Switch Close

- A(.....) Circuit close so electrical current flow
- B(.....) Circuit open so **No** electrical current flow.

3-Look to picture of Simple Circuit then answer:



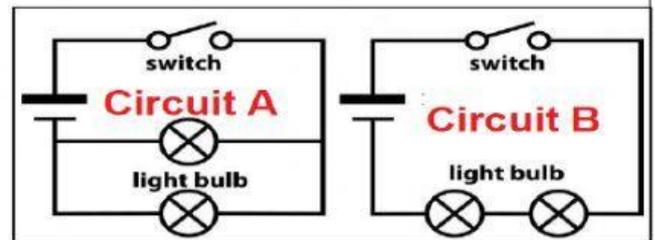
- 1-In which circuit electrical current Dose Not flow? **A-Circuit A** **B-Circuit B**
- 2-In which circuit electrical current will flow? **A-Circuit A** **B-Circuit B**
- 3-How do you know that circuit A close and electrical current will flow? **Because ...**

- a-Switch is close** **b-Switch is open** **c-Battery is fall**

4-Look to this picture:

- A-Circuit A is
- B-Circuit B is

- Series
- Parallel



Heat: 1- Write correct latter in its place meaning of each one of heat transfer:

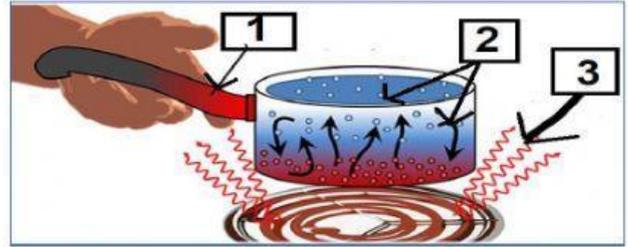
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|--|--|---|
| 1-Transfer way in which heat can transfer in space (.....) | 2-The transfer of energy between two solid objects that are touching (.....) | 3-The transfer of energy in moving gases or liquids (.....) |
|--|--|---|

A - Radiation

B - Conduction

C - Convection

- 2-Write correct number near each way of heat transfer:
- 1- (.....) Radiation
 - 2- (.....) Convection
 - 3- (.....) Conduction



Nonrenewable Resources: Put correct number up each type of energy resource:1 OR 2

1- Nonrenewable resources

2- Renewable resources

Oil النفط	Nuclear النووي	Wind الرياح	solar power الطاقة الشمسية	Natural Gas غاز طبيعي	Coal الفحم	Hydropower طاقة المباح	Metal المعادن

2- A material that formed from ancient organisms and is used today as a source of energy is:
 a- Fossil fuel b- Sediment c- Alternative energy resource

3-The fossil fuel are: a-Natural gas b-Oil c-Coal d-all of them

4-Join each type of nonrenewable resources to its Using:

1-Nuclear	(.....) , (.....), (.....) Produce Electricity
2-Oil	(.....) Power steam engines.
3-Natural gas	(.....) Cook food and Heating
4-Coal	

5-Wind energy, water energy, and solar power are all examples of energy solutions.

- a-alternative or Renewable b- Nonrenewable c-Fossil fuels

6-Which method is used to change plant and animal materials into fuel?

- a-Hydroelectricity b- Recycling c-Biomass conversion

7-Choose all types of renewable energy resources:

- a-Solar b-Oil c-Hydropower d-Wind e-Coal f-Geothermal g-Biofuel

8-Join each type of renewable resources to its Using and energy kind:

1-Biofuel	Using form أشكال الاستخدام	Energy kind نوع الطاقة
2-Solar power	(.....) , (.....), (.....), (.....) Produce Electricity	(.....) , (.....), (.....), (.....) Kinetic energy of motion
3-Geothermal	(.....) Thermal, fuel and Gas	(.....) Poetical stored energy
4-Hydroelectricity		
5-Wind Energy		

Impact of using energy:

1-Burning oil as fuel can release harmful substances called

a- Conservation

b- Pollution

c- Recycling

2- Any harmful substance that affect Earth's land, air, water:

a- Conservation

b- Pollution

c- Recycling

3-Reducing the amount of resources we use, called , will allow resources to be saved for a later time. a-Conservation b- Pollution c- Recycling.

4- The overuse of fossil fuels leads to a-Flooding b-Pollution c- Fertile soil

5-How can we conserve energy and help protect our environment:

a-Turn off water, turn off lights, turn off TV. a- Using less energy c-all of them

6-When an item is it is made into a new product.

a- Reused

b- Recycled

c- Reduce

7- To use something more than once. a- Reused b- Recycled c- Reduce

8- To less the amount of something is used. a-Recycled b- Reused c-Reduce

Classify each type of energy in to correct number: صنف كل أنواع الطاقة الى رقمها الصحيح

1-Pollution Environment ملوث للبيئة

2- Not Pollution Environment غير ملوث

Nuclear Energy نووية	Natural Gas غاز	Oil بتترول	Solar Energy شمسية	Hydroelectricity كهرومائية	Wind Energy الرياح	Coal الفحم	Geothermal Energy حرارية جوفية	Biofuel وقود حيوي
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Design Energy solution:

1-Which method of powering a vehicle will help to reduce air pollution

a- Using oil

b- Using biofuels

c- Using gasoline

2-How does the solar panel solve a design problem?

a- It transforms energy without producing air pollution.

b- It transforms sunlight energy to wind energy.

c- It uses nonrenewable resources for power.

3- Why now many people like LED lightbulb?

a-Give more light less heat.

B-Give more heat less light

c-I don't like LED

أرجو لكم التوفيق والنجاح معلمة العلوم الأستاذة **أروى المصعبي** ... مدرسة رفاعة – العين
I hope you success and achieve.... Science teacher Ms. **Arwa Al-Messabi**