

7J Electrical circuits

Extension questions

Science Interactive LTD, PO BOX 50764 LONDON NW6 9AT email: sales@science-interactive.co.uk

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Answer the following questions:



Click mouse to reveal answer

- Q1. What do you call an electric circuit with components placed one after the other?
- Q2. What do you call an electric circuit with more than one complete loop?
- Q3. What turns chemical potential energy into electrical energy?
- Q4. What do you call two or more electric cells connected together?
- Q5. What do you call pieces of metal used to connect electrical components?
- Q6. What do we use to make or break a complete circuit?
- Q7. What do you call a thin metal wire that is designed to melt when the electric current is too large?
- Q8. Which electrical component transforms electrical energy into sound energy?
- Q9. Which electrical component transforms electrical energy into light?
- Q10. Which battery terminal is usually coloured black?
- Q11. Which battery terminal is usually coloured red?
- Q12. Which electrical device measures electric current?
- Q13. Which electrical device measures potential difference? (voltage)
- Q14. Electric current is the flow of what?

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Answers:

- A1. A Series circuit
- A2. A parallel circuit
- A3. A cell
- A4. Battery
- A5. Wire
- A6. A switch
- A7. A fuse
- A8. Loudspeaker Buzzer
- A9. Lamp LED
- A10. Negative
- A11. Positive
- A12. Ammeter
- A13. Voltmeter
- A14. Electric charge

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multiple choice

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Click mouse to reveal answer

1: A filament bulb converts electrical energy into what types of energy ?

A Heat and sound

B Heat and light

C Heat and chemical

D Heat and kinetic

2: Using more appliances in the house does not cause an increase in ?

A The voltage

B The cost of electricity

C The energy given out

D The current through the meter

3: The voltage across a component in a circuit is measured by a ?

A Resistor

B Voltmeter

C Ammeter

D Switch

4: As you add bulbs in a series circuit the following happens ?

A They become brighter

B They stay the same

C They become hotter

D They become dimmer

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multiple choice

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1: A filament bulb converts electrical energy into what types of energy ?

- A
- B Heat and light
- C
- D

2: Using more appliances in the house does not cause an increase in ?

- A The voltage
- B
- C
- D

3: The voltage across a component in a circuit is measured by a ?

- A
- B Voltmeter
- C
- D

4: As you add bulbs in a series circuit the following happens ?

- A
- B
- C
- D They become dimmer

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literacy in science

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Answer all the questions below:

 Click mouse to reveal answer

1) Unscramble the following words:

errncut

tryteba

rgeyen

olvt etmer

2) Make three sentences using the following nine words or phrases:

current

a battery converts

series and parallel

transfers energy

chemical energy

different types

to a device

electrical energy

circuits

3) Match the word or phrase with the right meaning:

Current

Describes the energy in and out for a component like a bulb

Device

A flow of electrons or charge moving around a circuit

Energy transfer

A component like a bulb or motor that does useful work

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literacy in science

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Answer all the questions below:

1) Unscramble the following words:

current

battery

energy

Volt meter

2) Make three sentences using the following nine words or phrases:

current

a battery converts

series and parallel

transfers energy

chemical energy

different types

to a device

electrical energy

circuits

3) Match the word or phrase with the right meaning:

Current

A flow of electrons or charge moving around a circuit

Device

A component like a bulb or motor that does useful work

Energy transfer

Describes the energy in and out for a component like a bulb

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complete the sentence

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Place the right word or words to complete the sentence:



Click mouse to reveal answer

fuse

current

wet

protects

battery

route

circuit

heat

switch

- a) A_____protects the device and its user from a current surge.
- b) A lead or wire found in a_____ allows a charge or electricity to flow through it.
- c) A bulb converts electrical energy into_____ and light energy.
- d) A_____ converts chemical energy into electrical energy.
- e) In a series circuit there is only one_____ for the electrons to travel.
- f) A earth wire found in a device or a plug is there to_____ you against electrocution.
- g) It is highly unsafe to use a hairdryer with_____ hands.
- h) A light dimmer_____ uses a variable resistor to control the amount of current.
- i) The amount of _____ through a circuit depends on the nature and number of devices.

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complete the sentence

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Place the right word or words to complete the sentence:

fuse

current

wet

protect

battery

route

circuit

heat

switch

- a) **A fuse protects the device and its user from a current surge.**
- b) **A lead or wire found in a circuit allows a charge or electricity to flow through it.**
- c) **A bulb converts electrical energy into heat and light energy.**
- d) **A battery converts chemical energy into electrical energy.**
- e) **In a series circuit there is only one route for the electrons to travel.**
- f) **A earth wire found in a device or a plug is there to protect you against electrocution.**
- g) **It is highly unsafe to use a hairdryer with wet hands.**
- h) **A light dimmer switch uses a variable resistor to control the amount of current.**
- i) **The amount of current through a circuit depends on the nature and number of devices.**