

Science

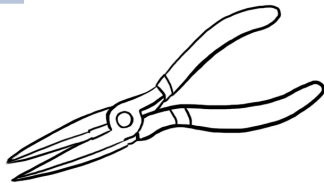
Topic 2: Electricity

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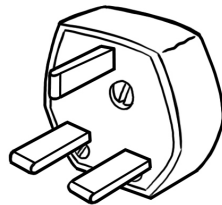
1. Use the words about **electricity** to label the pictures.

fire	pliers	plug	socket	symbol	wire
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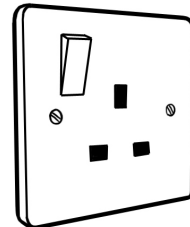
a)



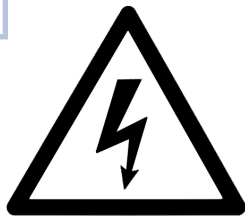
b)



c)



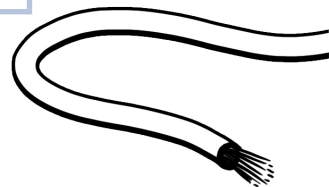
d)



e)



f)



a)		b)		c)	
d)		e)		f)	

2. Match the definitions to the **appliances** they describe.

a)	appliance	1	A button near the front door of a house that people press to make a sound.
b)	calculator	2	A container that is used for boiling water.
c)	computer	3	A flat hot surface on a cooker.
d)	cooker	4	A heavy, heated object that you push across clothes to make them smooth.
e)	doorbell	5	A large piece of electrical equipment that is used for freezing food.
f)	iron	6	A large piece of kitchen equipment that is used for cooking food.
g)	fridge	7	A piece of equipment used to stitch pieces of fabric together.
h)	freezer	8	A machine with keys that you use to print words directly onto a sheet of paper.

i)	hotplate	9	A piece of electrical equipment with a screen that is used for watching programmes.
j)	kettle	10	A piece of electronic equipment that you use for speaking to someone in a different place.
k)	radio	11	A piece of equipment that is used for storing food at low temperatures.
l)	sewing machine	12	A piece of equipment that you use for listening to programmes that only use sound.
m)	shaver	13	A small electric light that you hold in your hand.
n)	telephone	14	A small piece of electrical equipment used for cutting hair close to the skin.
o)	television	15	A small piece of electronic equipment that is used for addition, multiplication and other calculations.
p)	torch	16	An electronic machine that has programs on it for storing, writing and calculating information.
q)	typewriter	17	Any piece of electrical equipment that people have in their homes.

Write your answers here:

a)	b)	c)	d)	e)	f)	g)	h)	i)	j)	k)	l)	m)	n)	o)	p)	q)

3. Find the words about **circuits** in the word search.

<div style="font-family: monospace; font-size: 1.2em; line-height: 1.2;"> N Z H W H E D D R T E F E F S I X S A B J T M J S K Y A H P C E L L X A U R R I E E T M E C C F U S E T M D S V R N L O A O S T S W I T C H V J W R E B M S O C U R R E N T N P A S L P O G L R W O U R I F R E N E L E C T R I C I T Y S N H R W E A F S I R C Q H A B P T F P T F M N E E S Y C S R M C A D E S H P T J I N R O E D L Y R E L A G Y H O I O O N R J I S F G L E A O A M D E F S O N H T T F E O E O F T T W R K B I Z A Z F F G D Z E S P A E I </div>	<div style="font-family: sans-serif; font-size: 1.2em;"> battery cable cell complete current electricity fuse gap lamp loose switch wire </div>
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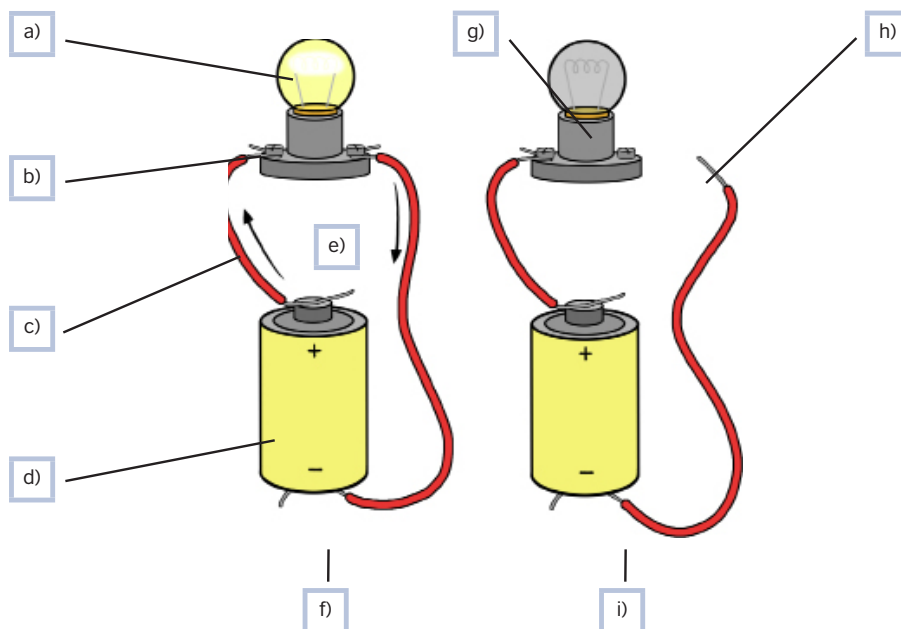
4. Choose the correct words from the list to fill the gaps in the text about **electricity in the home**.

appliances	cables	carry	energy	power stations
watts	mains	meter	generate	convert

Electricity is a very useful form of ^{a)} _____. It is easy to send from one place to another. We can ^{b)} _____ electricity in a power station and send it through underground ^{c)} _____ and overhead wires that ^{d)} _____ the energy to factories, offices, schools and homes. We call this ^{e)} _____ electricity. In ^{f)} _____, oil or gas is burnt to heat water. The high-pressure steam turns turbines that drive generators. The generators produce mains electricity. In our homes we use ^{g)} _____ to ^{h)} _____ mains electrical energy into the different forms of energy we need. The amount of electricity we use is measured using a ⁱ⁾ _____ in our homes. It is measured in units called ^{j)} _____.

5. Use the words and phrases about **circuits** to label the diagram.

break	broken circuit	bulb
connect	electric current	holder
cell	wire	complete circuit




Write answers here:


a)		b)		c)	
d)		e)		f)	
g)		h)		i)	

6. Use the words to label the **electrical symbols**.


battery	cell	circuit
lamp	switch	wire



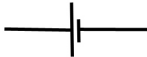
a)




d)



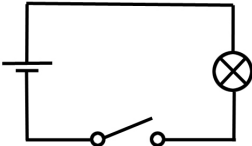
buzzer



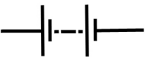
b)




motor



f) A diagram



c)



e)

7. Draw a line between each word or phrase about **electricity and safety** and its correct definition.

Something faulty	is likely to cause serious harm, or to have a bad effect.
An electric shock	is someone whose job is to repair or fit electrical equipment.
Something dangerous	is to get rid of something and put a new thing in its place.
A conductor	have fibres that are coming apart at the edge.
Frayed leads	is a sudden strong pain that is caused by electricity passing through the body.
A short circuit	is a substance that heat or electricity can pass through.
To replace	is not working correctly, or not made correctly.
An electrician	can cause a sudden increase in the current and can damage equipment.

8. Fill in the gaps to complete the sentences about **safety and electricity**.

- a) Mains electricity can be _____ and cause injury or harm if it is not used correctly.
- b) Faulty circuits or broken appliances can cause injuries such as _____.
- c) The combination of water and _____ can be very dangerous.
- d) A wire is a good example of a _____ because it allows electricity to move from one place to another.
- e) If you touch a piece of equipment like an electrical _____ with wet hands you could be killed.
- f) The wiring of electrical appliances should be checked regularly for faulty connections such as those that have become _____ and need to be secured.
- g) Frayed leads can cause faults such as _____.
- h) Damaged leads on electrical appliances must be _____ with new ones as soon as possible.
- i) Mains circuits should always be fitted and repaired by a qualified _____.

9. Put the words in the correct order to make sentences about **electricity**.

a)	To burn means	or	destroy something with fire.	to damage	
Correct sentence:					
b)	To cause means	happen.	make	to	something
Correct sentence:					
c)	A cold room is	where food is stored	that is kept very cold,	a room	to keep it fresh.
Correct sentence:					
d)	A component is	piece of equipment.	or	a part of a machine	
Correct sentence:					
e)	Distribution is	electricity	the way in which	or spread over an area.	is shared among people
Correct sentence:					

f)	Electrocution is	injuring of someone	with electricity.	the killing or	
Correct sentence:					
g)	To fit is	to go somewhere.	to be small enough	or the right size and shape	
Correct sentence:					
h)	A flat battery is	that does not have enough power	to continue working.	a battery	
Correct sentence:					
i)	Insulation is	prevent heat, cold, sound, or electricity	material	from passing through something.	that is used to
Correct sentence:					
j)	Melting is	into a liquid using heat.	a solid substance	changing	
Correct sentence:					
k)	A screwdriver is	turning screws.	used for	a tool	
Correct sentence:					
l)	A tool is	to do a particular type of work.	that you use	a piece of equipment	
Correct sentence:					

Glossary

Word	Definition
appliance	/əˈplaɪəns/ noun [C] any piece of electrical equipment that people have in their homes: <i>appliances such as washing machines and refrigerators</i>
battery	/ˈbæt(ə)ri/ (plural batteries) noun [C] an object that fits into something such as a radio, clock, or car and supplies it with electricity. A battery consists of an electrical cell or a series of electrical cells.
break	/breɪk/ (breaks, breaking, broke, broken) verb [I/T] if a piece of equipment breaks, or if you break it, it stops working correctly PHYSICS if something electrical blows, it stops working because a fault has caused an electrical circuit to break
bulb	/bʌlb/ noun [C] a glass object with a very thin wire called a filament inside, that produces light when it is connected to an electricity supply = LIGHT BULB
burn	/bɜː(r)n/ (burns, burning, burnt or burned) verb [T] to damage or destroy something with fire
cable	/ˈkeɪb(ə)l/ noun [C/U] thick wire used for carrying electricity or electronic signals
calculator	/ˈkælkjʊˌleɪtə(r)/ noun [C] a small piece of electronic equipment that is used for doing calculations
carry	/ˈkæri/ (carries, carrying, carried) verb 3 [T] to transport someone or something from one place to another: <i>a cable carrying electricity</i>
cause	/kɔːz/ cause /kɔːz/ verb [T] to make something happen, usually something bad
cell	/sel/ noun [C] a piece of equipment that uses chemicals, heat, or light to produce electricity
cold room	/kəʊld ru:m/ noun [U] a place that is kept very cold, where food is put in order to keep it fresh
conductor	/kənˈdʌktə(r)/ noun [C] a substance that heat or electricity can pass through: <i>Metals are good conductors of electricity</i>
complete	/kəmˈpli:t/ verb [T] to finish something: <i>The work was completed in March.</i> 2 to add the missing parts of something in order to finish it: <i>to complete a circuit.</i>
component	/kəmˈpəʊnənt/ noun [C] a part of a machine or piece of equipment
computer	/kəmˈpjʊ:tə(r)/ noun [C] an electronic machine that has programs on it for storing, writing, and calculating information.
connect	/kəˈnekt/ verb [I/T] to join two things together: <i>She carefully connected the two wires.</i>
convert	/kənˈvɜː(r)t/ verb [I/T] to change from one thing or use to another, or to make something change in this way
cooker	/ˈkʊkə(r)/ noun [C] a large piece of kitchen equipment that is used for cooking food. It usually includes an oven and a hob.
current	/ˈkʌrənt/ noun [C/U] a flow of electricity
damage	/ˈdæmɪdʒ/ noun [U] physical harm: <i>Luckily, no serious damage had been done. Damage to the building could take six months to repair.</i>

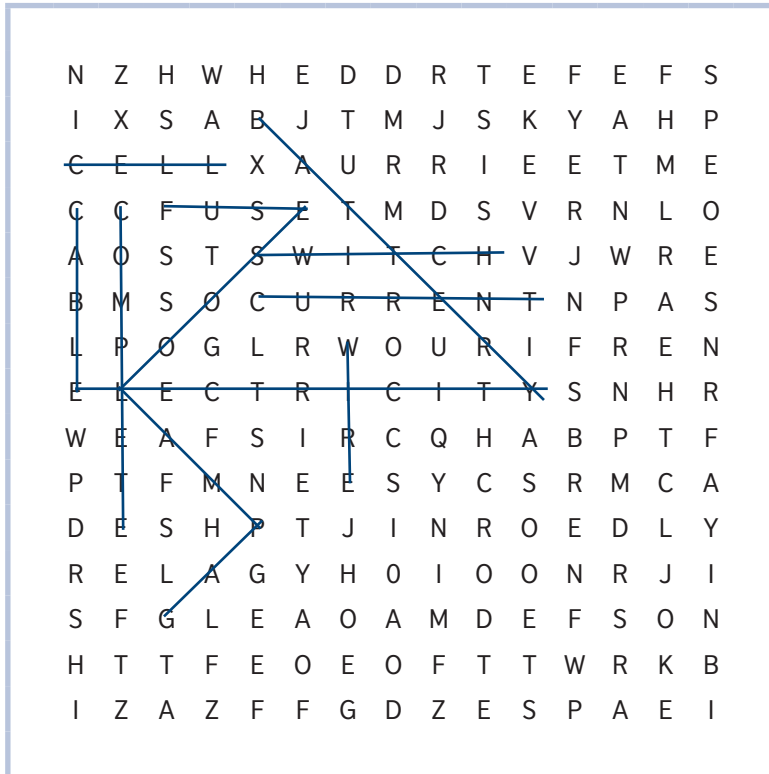
danger	/ˈdeɪndʒə(r)/ noun [U] a situation in which serious harm, death, or damage is possible: <i>a campaign to warn children of the dangers of electricity</i>
dangerous	/ˈdeɪndʒərəs/ adj likely to cause serious harm, or to have a bad effect: <i>electricity can be dangerous to humans.</i>
distribution	/ˌdɪstrɪˈbjʊːʃ(ə)n/ noun [C/U] the way in which something like electricity is shared among people or spread over an area
doorbell	/ˈdɔː(r),bel/ noun [C] a button near the front door of a house that people press to make a sound. It tells the person in the house that they are there.
electric shock	/ɪˈlektrɪk ʃɒk/ noun [C] a sudden strong pain that is caused by electricity passing through the body
electrician	/ɪˌlekˈtrɪʃ(ə)n/ noun [C] someone whose job is to repair or fit electrical equipment
electricity	/ɪˌlekˈtrɪsəti/ noun [U] a form of energy that can produce light, heat, and power for computers, televisions etc.
electrocution	/ɪˌlektɹəˈkjuːʃ(ə)n/ noun [U] killing or injuring someone with electricity
energy	/ˈenə(r)dʒi/ noun [U] a supply or source of electrical, mechanical, or other form of power
equipment	/ɪˈkwɪpmənt/ noun [U] the tools, machines, or other things that you need for a particular job or activity: <i>A computer is the most important piece of equipment you will buy.</i>
faulty	/ˈfɔːlti/ adj not working correctly, or not made correctly: <i>faulty circuit</i>
fire	/ˈfaɪə(r)/ [C/U] flames and heat from something that is burning in an uncontrolled way: <i>an electrical fault may have started the fire.</i>
fit	/fɪt/ (fits, fitting, fitted or fit) verb 1 [I/T] to be small enough or the right size and shape to go somewhere, or to manage to put someone or something in a space: <i>I don't think that cooker will fit.</i> 2 [T] to add a piece of equipment to something else.
(flat) iron	/ˈaɪə(r)n/ noun [C] a heated object that you push across clothes in order to make them smooth
flow	/fləʊ/ noun [C/U] the continuous movement of something: <i>the flow of electricity in the circuit</i>
frayed (leads)	/freɪd/ adj with fibres that are coming apart at the edge
fridge	/frɪdʒ/ noun [C] a piece of equipment that is used for storing food at low temperatures
freezer	/ˈfriːzə(r)/ noun [C] a large piece of electrical equipment that is used for freezing food
fuse	/fjuːz/ fuse /fjuːz/ noun [C] an object in electrical equipment that contains a thin piece of wire that breaks and makes the equipment stop working when there is too much electricity flowing through it
gap	/gæp/ noun [C] a space or opening in the middle of something or between things
generate	/ˈdʒenəreɪt/ verb [T] to produce power or heat: <i>75% of France's electricity is generated by nuclear reactors.</i>
(go) flat	/flæt/ (flatter, flattest) adj: to have no power - <i>a flat battery does not have enough power left in it</i>

holder	/ˈhəʊldə(r)/ noun [C] something that is designed to hold or support another object
hotplate	/ˈhɒt,pleɪt/ noun [C] a flat hot surface on a cooker
insulation	/ˌɪnsjʊˈleɪʃ(ə)n/ noun [U] material that is used for preventing heat, cold, sound, or electricity from passing through something
kettle	/ˈket(ə)/ noun [C] a container that is used for boiling water
lamp	/læmp/ noun [C] 1 an electric light that stands on a floor or table 2 an oil or gas light 3 a piece of equipment that produces light and heat: <i>an ultra-violet lamp</i>
light	/laɪt/ noun [C] a piece of electrical equipment that produces brightness: <i>Could somebody put the light on?</i>
lighting	/ˈlaɪtɪŋ/ noun [U] light of a particular type or quality, or the equipment that produces it
loose	/luːs/ adj not firmly fixed in position: <i>One of the screws had come loose.</i>
mains	/meɪnz/ noun [U] the public supply of electricity for people to use in their homes, businesses etc
melt	/melt/ verb [I/T] to change a solid substance into a liquid using heat, or to be changed from a solid substance into a liquid by the use of heat
meter	/ˈmi:tə(r)/ noun [C] a piece of equipment for measuring how much electricity or gas you have used
pliers	/ˈplaɪə(r)z/ noun [plural] a metal tool that looks like a strong pair of scissors, used for holding small objects or for bending or cutting wire
plug	/plʌɡ/ noun [C] an object with pins that is used for connecting a piece of equipment to an electricity supply, usually by fitting it into a socket in a wall
power station	/ˈpaʊə(r) ˈsteɪʃ(ə)n/ noun [C] a large building that contains machines that produce power, especially electricity
radio	/ˈreɪdiəʊ/ (plural radios) noun [C] a piece of equipment that you use for listening to radio programmes: <i>a car radio</i>
record (the amount)	/rɪˈkɔː(r)d/ verb [T] to make a record of something that has happened, usually by writing it down: <i>They were asked to record the amount of electricity used in one day.</i>
refrigeration	/rɪˌfrɪdʒəˈreɪʃ(ə)n/ noun [U] keeping food or drinks cold by putting them in a refrigerator
repair	/rɪˈpeə(r)/ verb [T] to fix something that is broken or damaged: <i>damaged electrical equipment should be repaired as quickly as possible.</i>
replace	/rɪˈpleɪs/ verb [T] to get rid of someone or something and put a new person or thing in their place: <i>We'll have to replace the cable that was damaged.</i>
screwdriver	/ˈskruːˌdraɪvə(r)/ noun [C] a tool used for turning screws
sewing machine	/ˈseʊɪŋ məˈʃiːn/ noun [C] a machine that is used for sewing clothes, curtains etc
shaver	/ˈʃeɪvə(r)/ noun [C] a small piece of electrical equipment used for cutting hair from a part of the body
short circuit	/ʃɔː(r)t ˈsɜː(r)kɪt/ noun [C] an electrical circuit that is completed, often accidentally, in a way that allows current to flow along a different path from the one intended. Short circuits cause a sudden increase in current that can damage equipment.

socket	/ˈsɒkɪt/ noun [C] a place on a wall or machine with holes that you use for connecting a piece of electrical equipment
switch	/swɪtʃ/ noun [C] something such as a button or key that makes a piece of equipment work: <i>a light switch</i>
switch off / on	/swɪtʃ ɒf/ If you switch off something such as a light or a machine, or if it switches off, it stops working: <i>The heating has switched off.</i> Switch (sth) on if you switch on something such as a light or a machine, or if it switches on, it starts working: <i>The machine switches on automatically.</i> - synonym for turn on / off
symbol	/ˈsɪmb(ə)l/ noun [C] a mark, letter, or number that is used to represent something, for example in electronics or physics
telephone	/ˈtelɪˌfəʊn/ noun [C] a piece of electronic equipment that you use for speaking to someone in a different place
television	/ˈtelɪˌvɪʒ(ə)n/ noun [C] a piece of electrical equipment with a screen that is used for watching programmes
tool	/tuːl/ noun [C] a piece of equipment that you hold to do a particular type of work: <i>electrical tools</i>
torch	/tɔː(r)tʃ/ noun [C] a small electric light that you hold in your hand
transformer	/trænsˈfɔː(r)mə(r)/ noun [C] a piece of electrical equipment that changes the voltage of a flow of electricity. A transformer can be used for connecting a piece of electrical equipment that uses one voltage to an electricity supply of a different voltage.
typewriter	/ˈtaɪpˌraɪtə(r)/ noun [C] a machine with a keyboard that you use for typing words directly onto a sheet of paper
unit	/ˈjuːnɪt/ noun [C] a standard quantity that is used for measuring something
watt	/wɒt/ noun [C] a unit for measuring electrical power, measured in joules per second.
wire	/ˈwaɪə(r)/ noun [C/U] a long piece of metal like a very thin piece of string: <i>The sticks were tied in bundles with wire.</i>

Key:

1. a) pliers, b) plug, c) socket, d) symbol, e) fire, f) wire
2. a) 17, b) 15, c) 16, d) 6, e) 1, f) 4, g) 11, h) 5, i) 3, j) 2, k) 12, l) 7, m) 14, n) 10, o) 9, p) 13, q) 8
- 3.



4. a) energy, b) generate, c) cables, d) carry, e) mains, f) power stations, g) appliances, h) convert, i) meter, j) watts
5. a) bulb, b) connect, c) wire, d) cell, e) electric current, f) complete circuit, g) holder, h) break, i) broken circuit
6. a) wire, b) cell, c) battery, d) switch, e) lamp, f) circuit

7.

Something faulty	is likely to cause serious harm, or to have a bad effect.
An electric shock	is someone whose job is to repair or fit electrical equipment.
Something dangerous	is to get rid of something and put a new thing in its place.
A conductor	have fibres that are coming apart at the edge.
Frayed leads	is a sudden strong pain that is caused by electricity passing through the body.
A short circuit	is a substance that heat or electricity can pass through.
To replace	is not working correctly, or not made correctly.
An electrician	can cause a sudden increase in the current and can damage equipment.

8. a) dangerous, b) electric shocks, c) electricity, d) conductor, e) appliance, f) loose, g) short circuits, h) replaced, i) electrician

9.

a)	To burn means	to damage or destroy something with fire.
b)	To cause means	to make something happen.
c)	A cold room is	a place that is kept very cold, where food is stored to keep it fresh.
d)	A component is	a part of a machine or piece of equipment.
e)	Distribution is	the way in which electricity is shared among people or spread over an area.
f)	Electrocution is	the killing or injuring of someone with electricity.
g)	To fit is	to be small enough or the right size and shape to go somewhere.
h)	A flat battery is	a battery that does not have enough power to continue working.
i)	Insulation is	material that is used to prevent heat, cold, sound, or electricity from passing through something.
j)	Melting is	changing a solid substance into a liquid using heat.
k)	A screwdriver is	a tool used for turning screws.
l)	12 A tool is	a piece of equipment that you use to do a particular type of work.