

NATURAL SCIENCES

RESOURCE PACK
GRADE 9 TERM 3



RESOURCE 1

3drenderings/ Shutterstock

PUSH FORCE-1



RESOURCE 2

MAHATHIR MOHD YASIN/Shutterstock

PUSH FORCE-2



RESOURCE 3

Syda Productions/Shutterstock

FRICION FORCE



RESOURCE 4

Asier Romero/Shutterstock

GRAVITATIONAL FORCE



RESOURCE 5

Rawpixel.com/Shutterstock

PULL OR TENSION FORCE

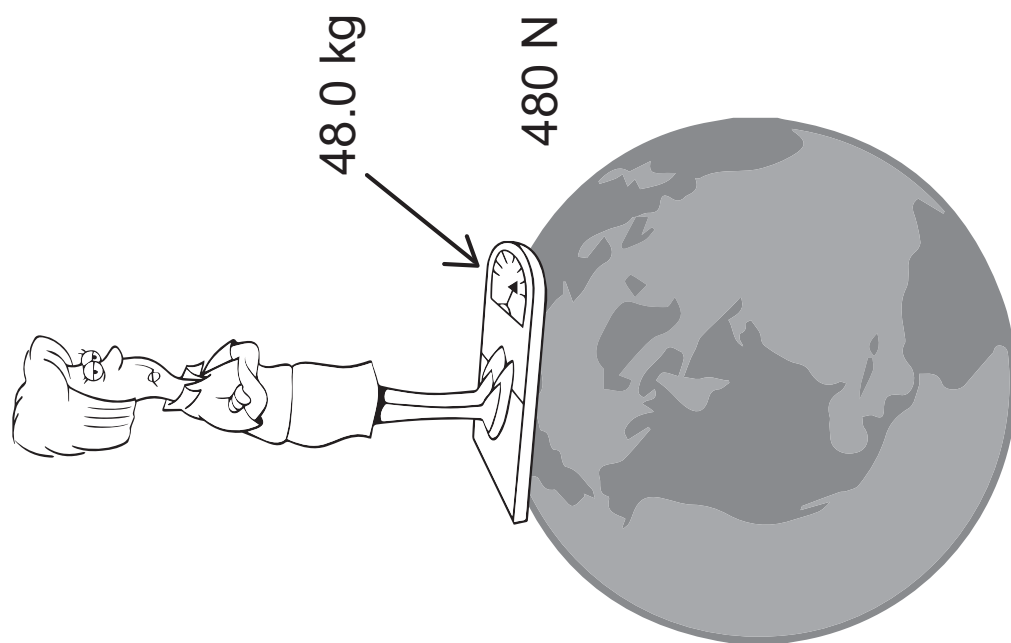
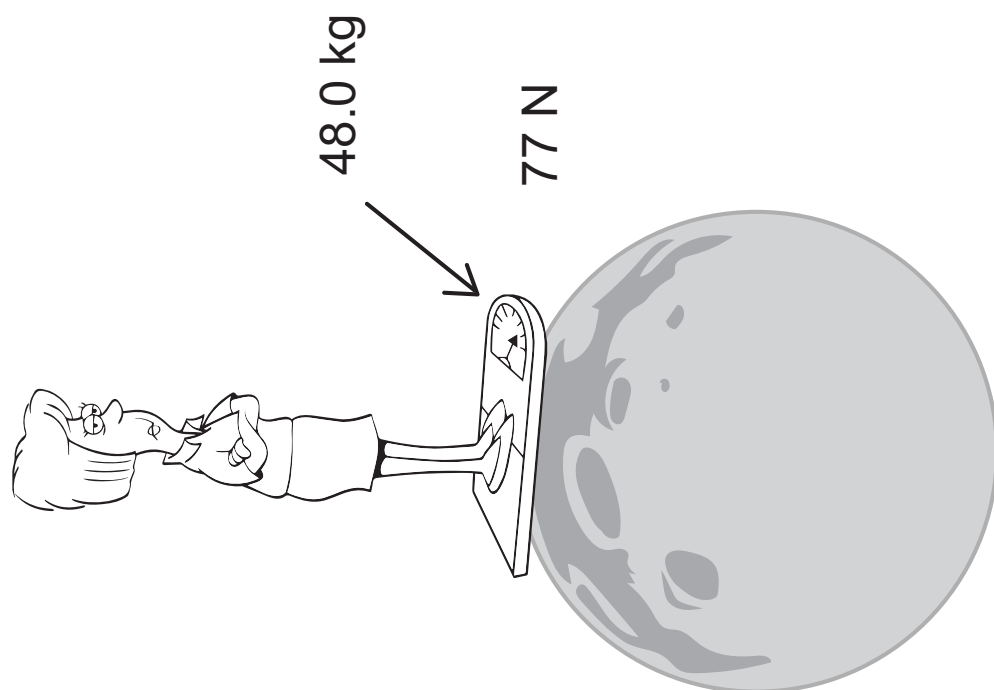


RESOURCE 6

Stocksnapper/Shutterstock

COMPRESSION FORCE

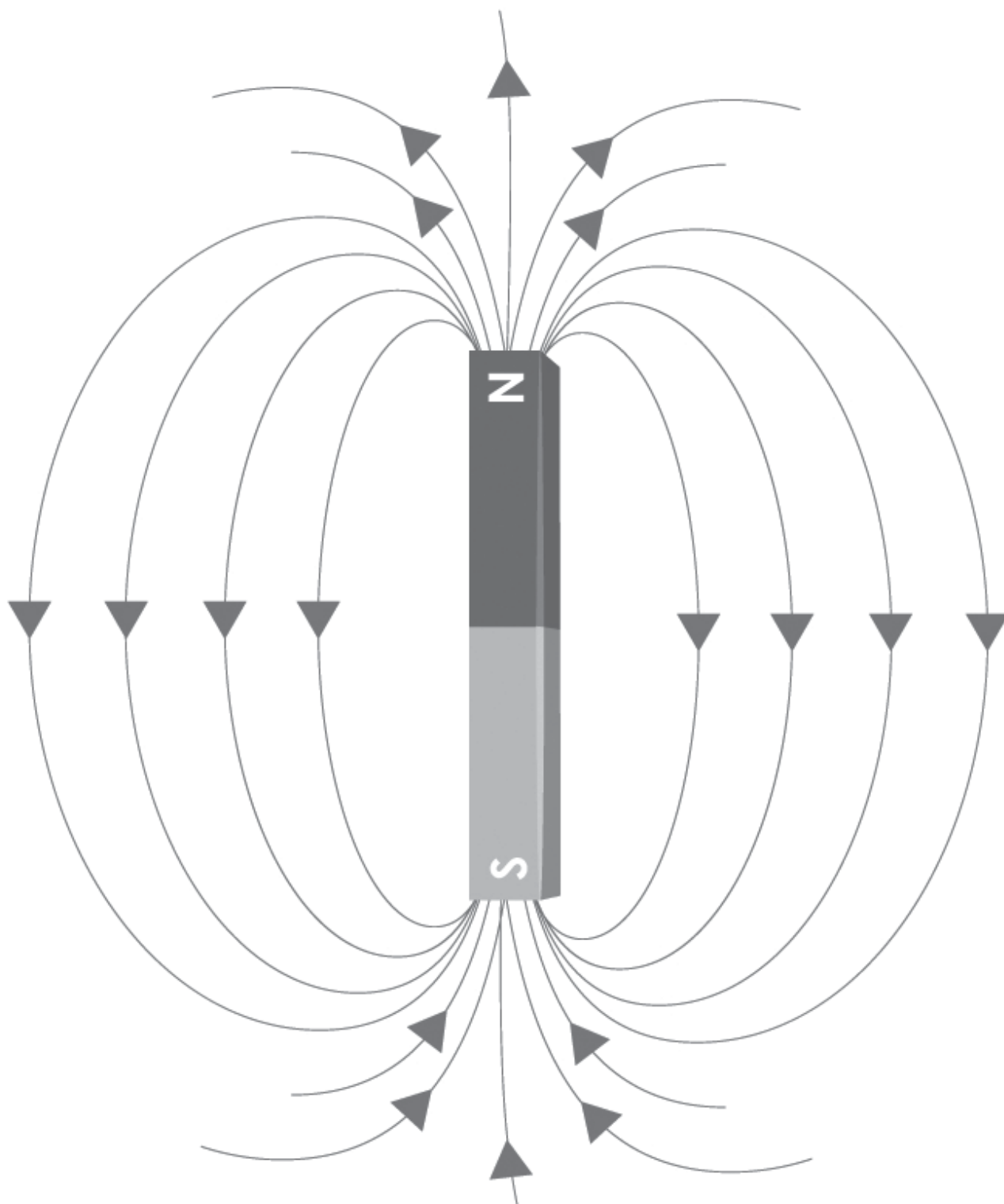




RESOURCE 8

snaggalleria/Shutterstock

DIAGRAM OF A BAR MAGNET



RESOURCE 9

Igor Shikov/Shutterstock

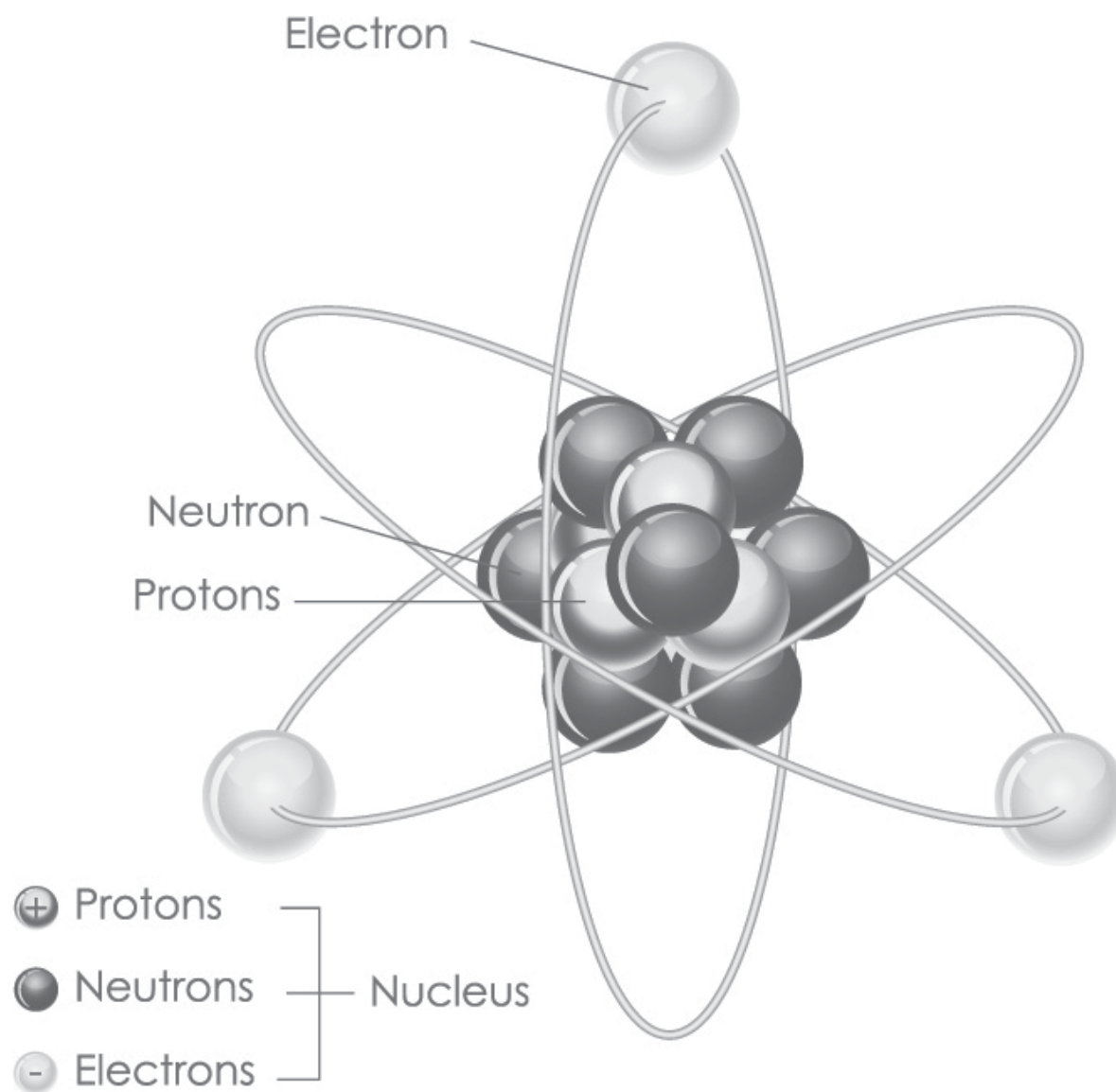
MAGNETIC COMPASS

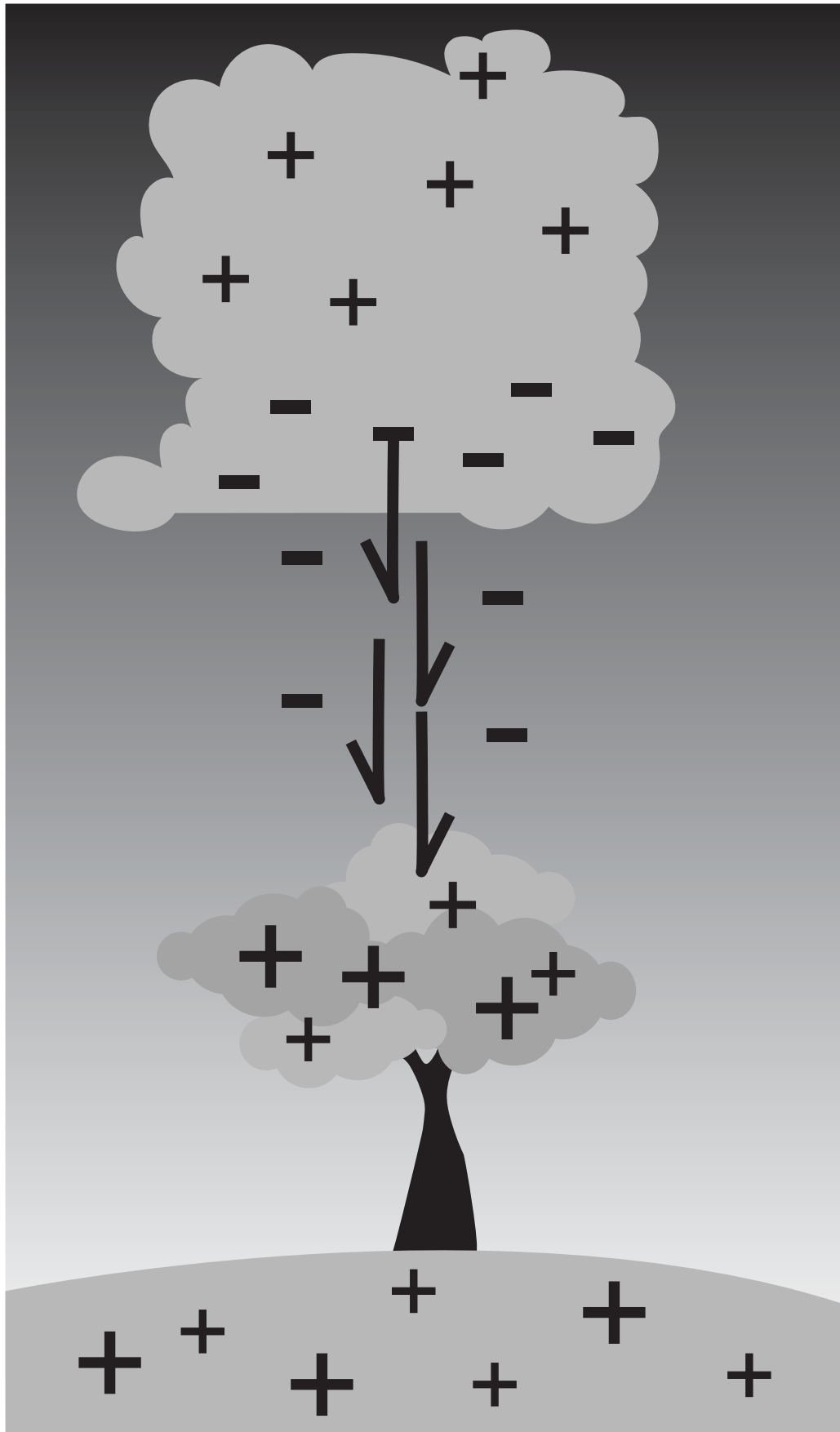


RESOURCE 10

snaggalleria/Shutterstock

AN ATOM

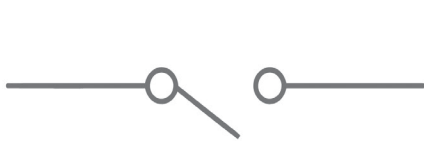




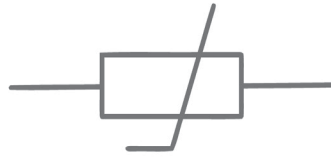
RESOURCE 12

ducu59us/Shutterstock

CIRCUIT SYMBOLS



SWITCH (open)



THERMISTOR



LAMP



SWITCH (closed)



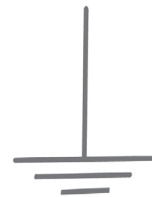
CELL



AMMETER



FUSE



GROUND



VOLTMETER



DIODE



INDUCTOR



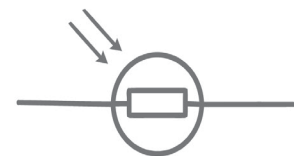
BATTERY



RESISTOR

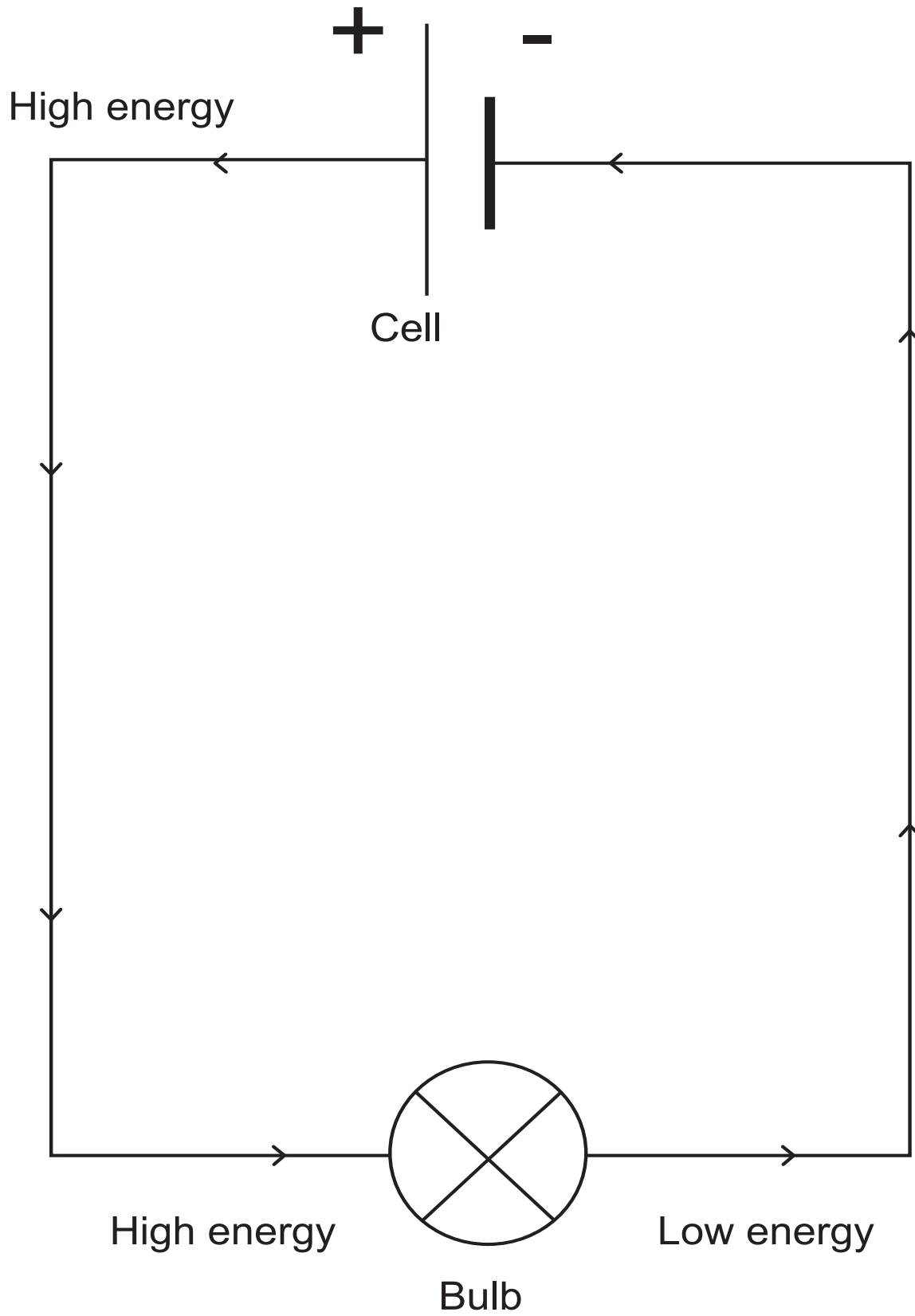


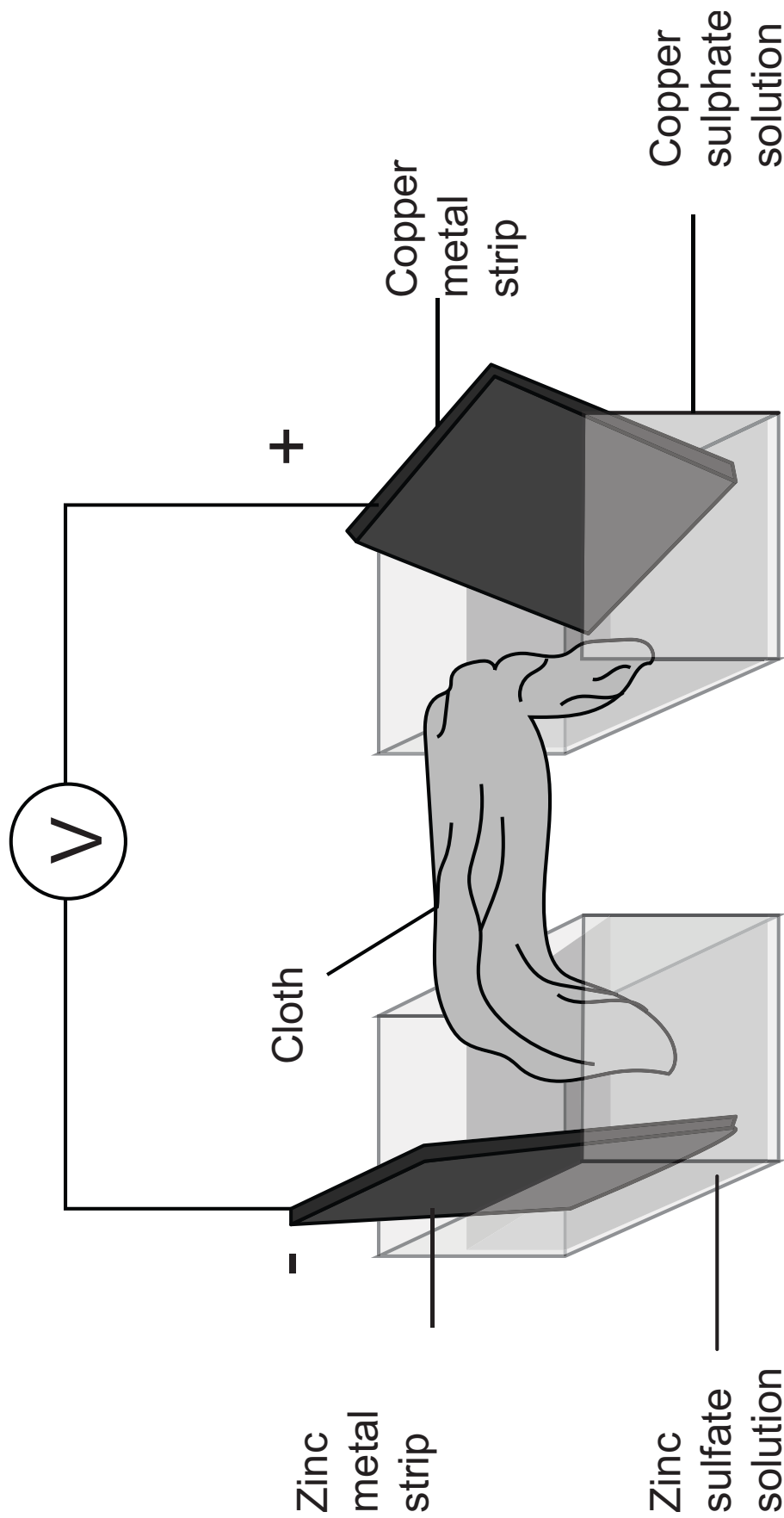
BUZZER



LDR

ENERGY OF CHARGE AT DIFFERENT POINTS IN A CIRCUIT



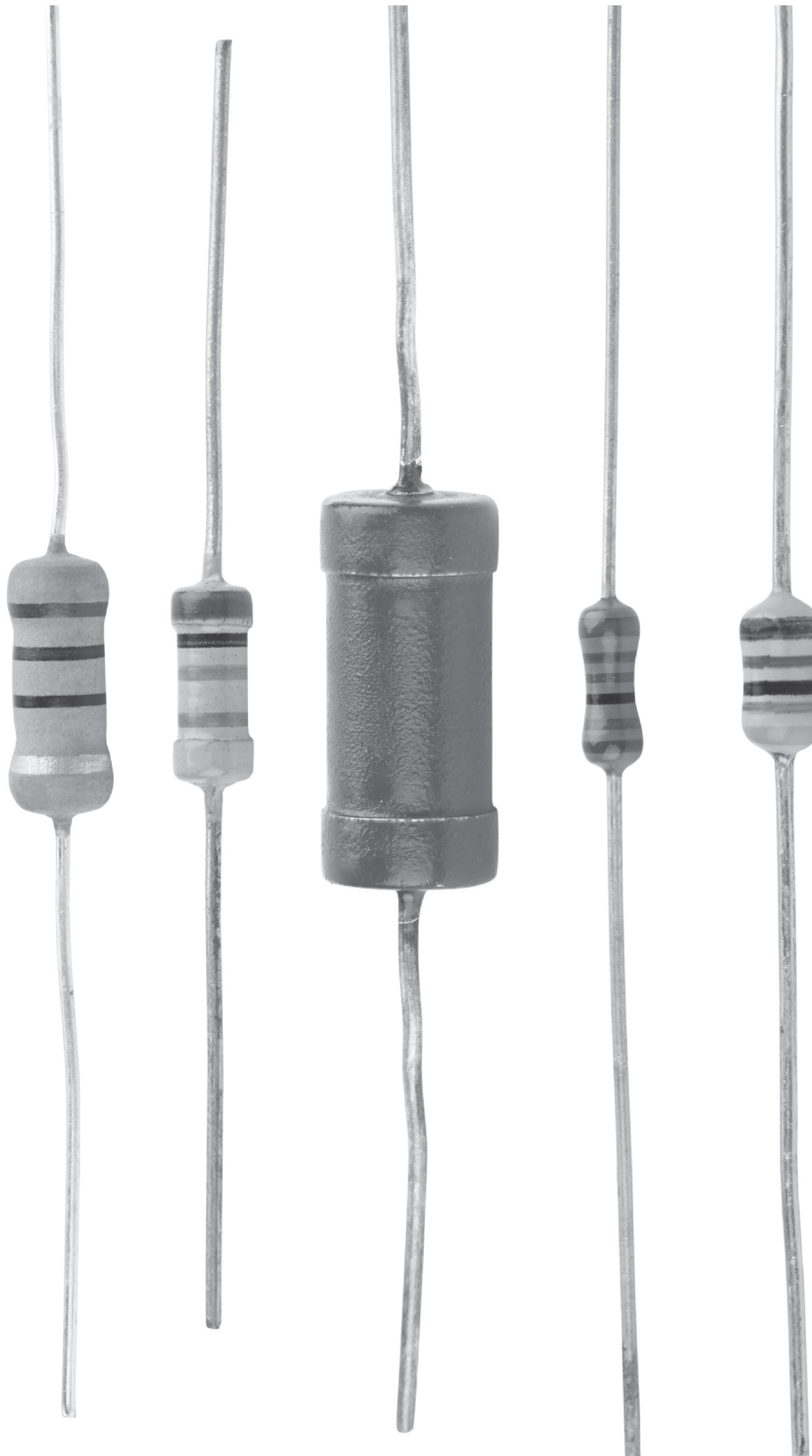


A zinc copper cell

RESOURCE 15

Sergiy Kuzmin/Shutterstock

DIFFERENT TYPES OF RESISTORS USED TO ADD RESISTANCE TO AN ELECTRICAL CIRCUIT



RESOURCE 16

StockPhotosArt/Shutterstock

INSIDE AN ELECTRIC KETTLE



RESOURCE 17

ThomasLENNE/Shutterstock

AN INCANDESCENT LIGHT BULB



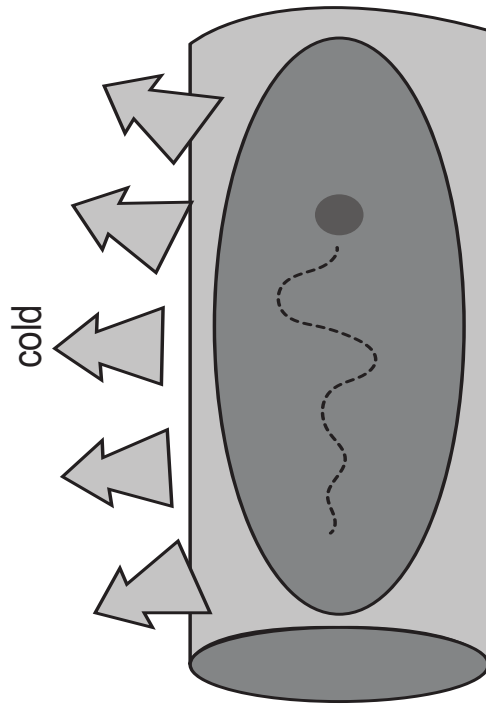
RESOURCE 18

nobelio/Shutterstock

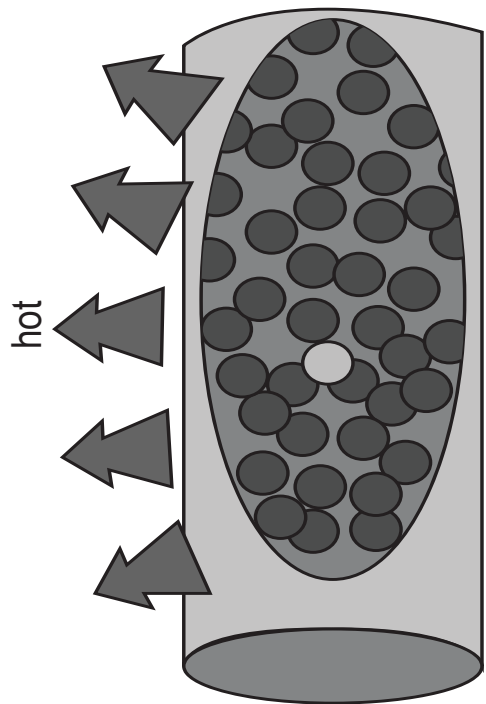
AN ELECTRIC TOASTER



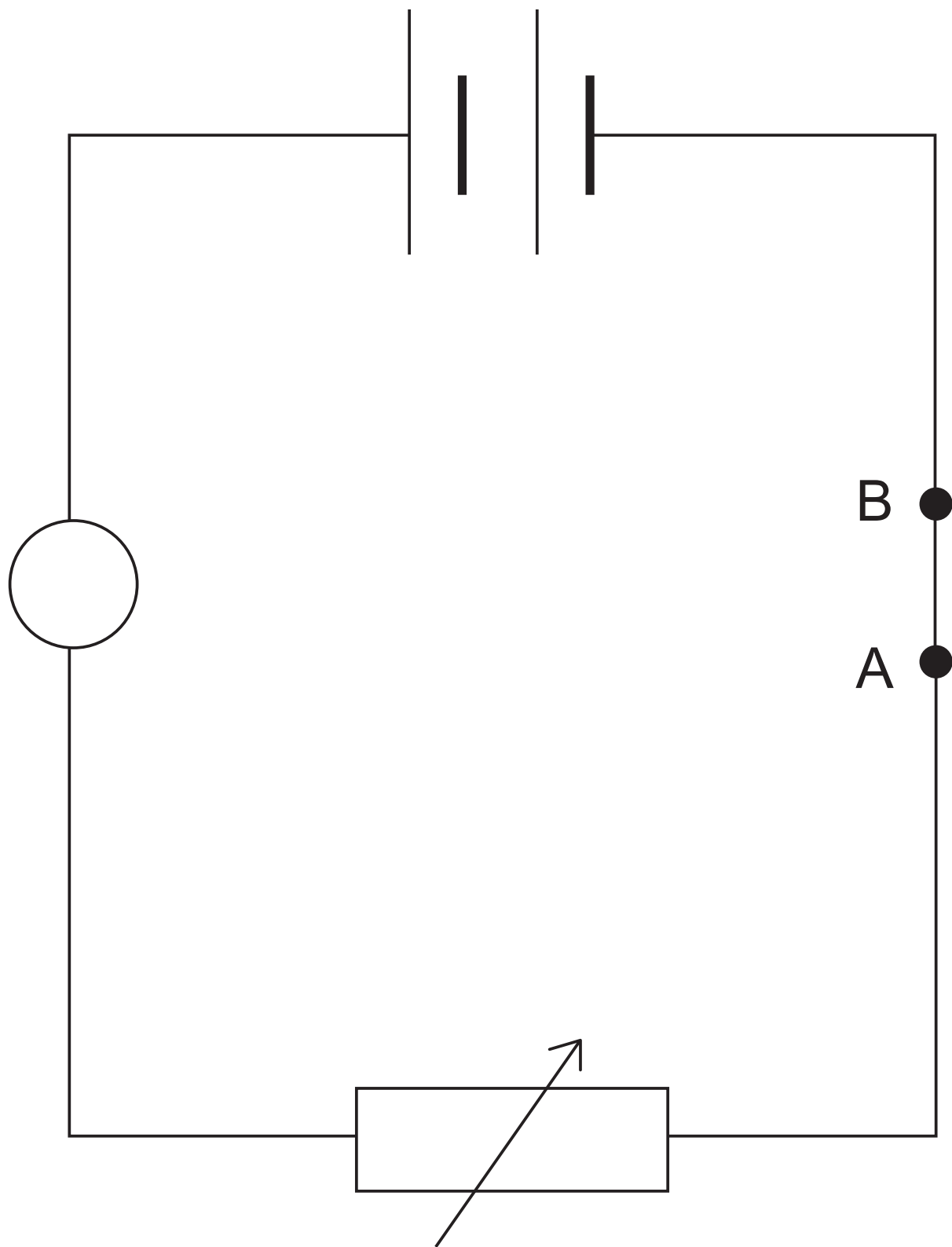
AN ELECTRIC TOASTER



A colder conductor offers a less resistance to the flow of electric current



A hot conductor offers a high resistance to the flow of electric current



RESOURCE 21

Andrei Nekrassov/Shutterstock

VOLTMETER



RESOURCE 22

Andrei Nekrassov/Shutterstock

AMMETER



RESOURCE 23

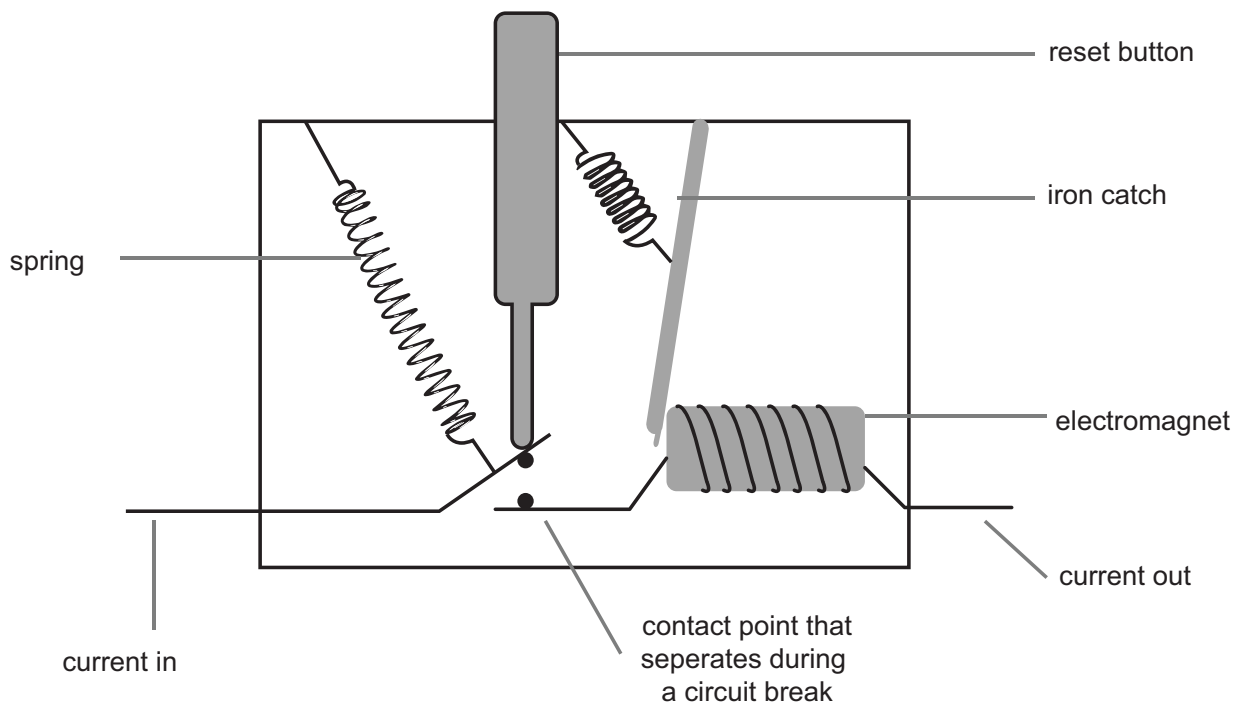
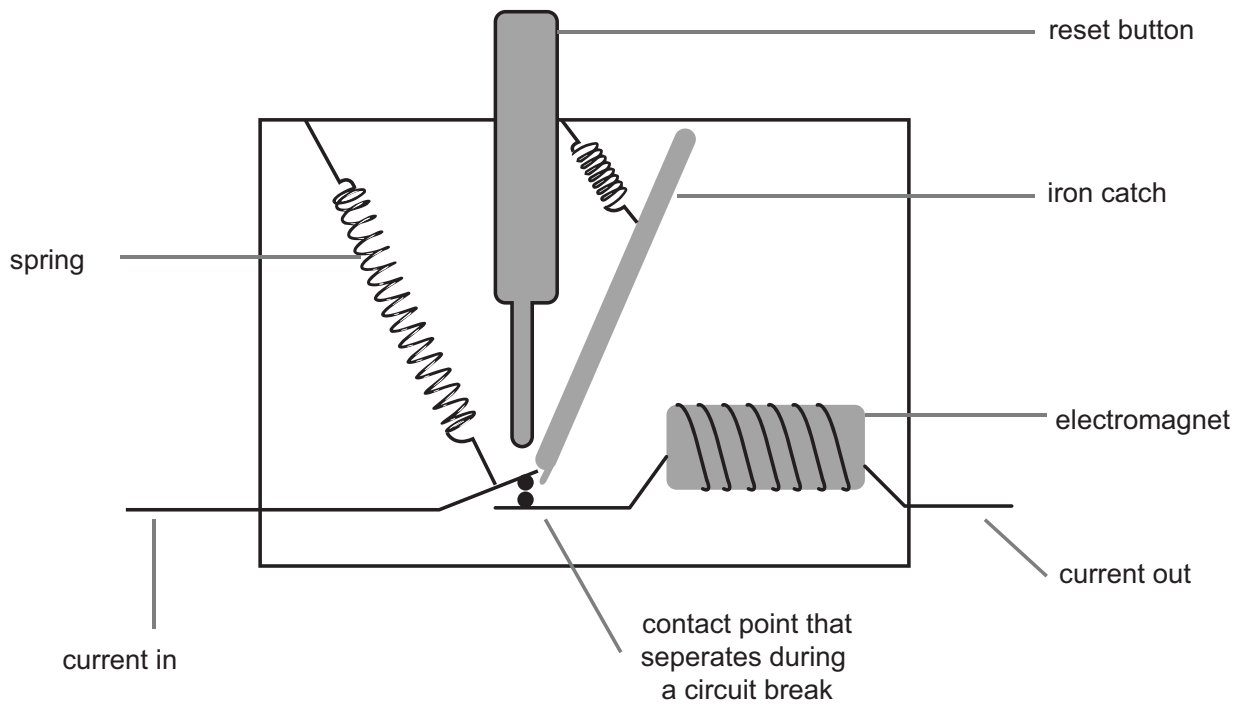
Gary Perkin/Shutterstock

CIRCUIT BOARD WITH CIRCUIT BREAKERS



RESOURCE 24

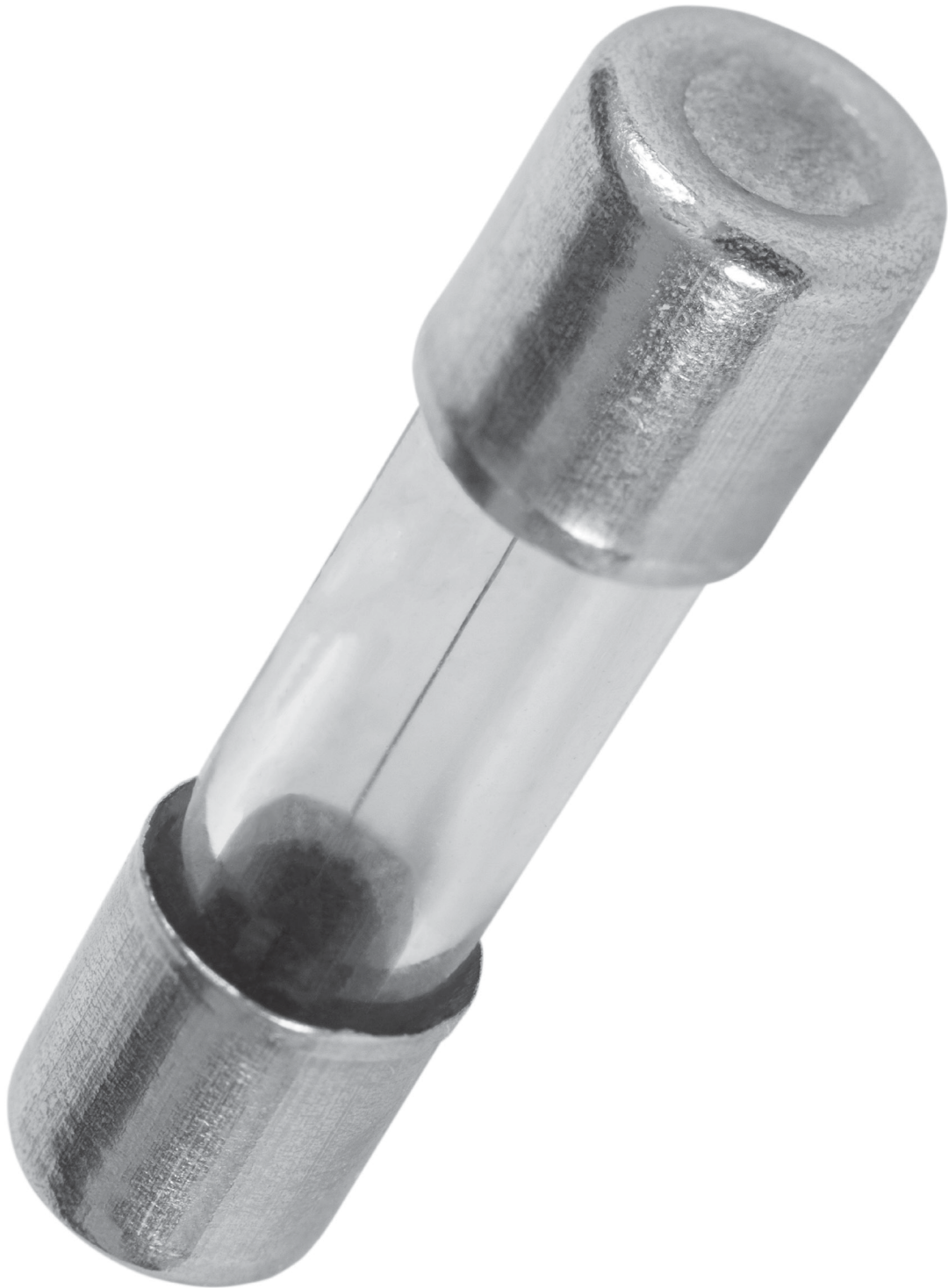
CIRCUIT BREAKER DIAGRAM



RESOURCE 25

Oleg Bezrukov/Shutterstock

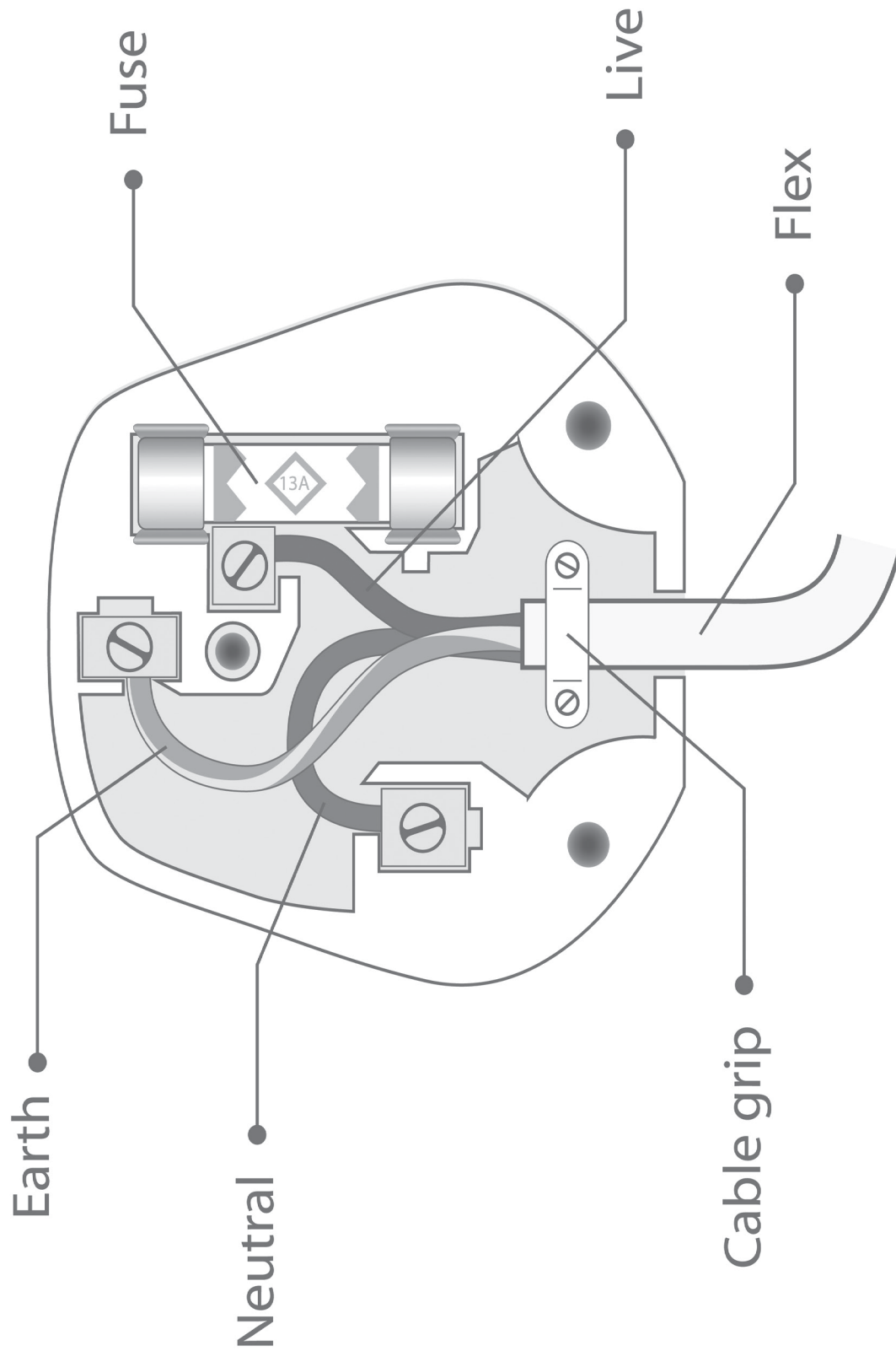
FUSE



RESOURCE 26.1

v_ctoria/Shutterstock

3-PIN PLUG WIRING

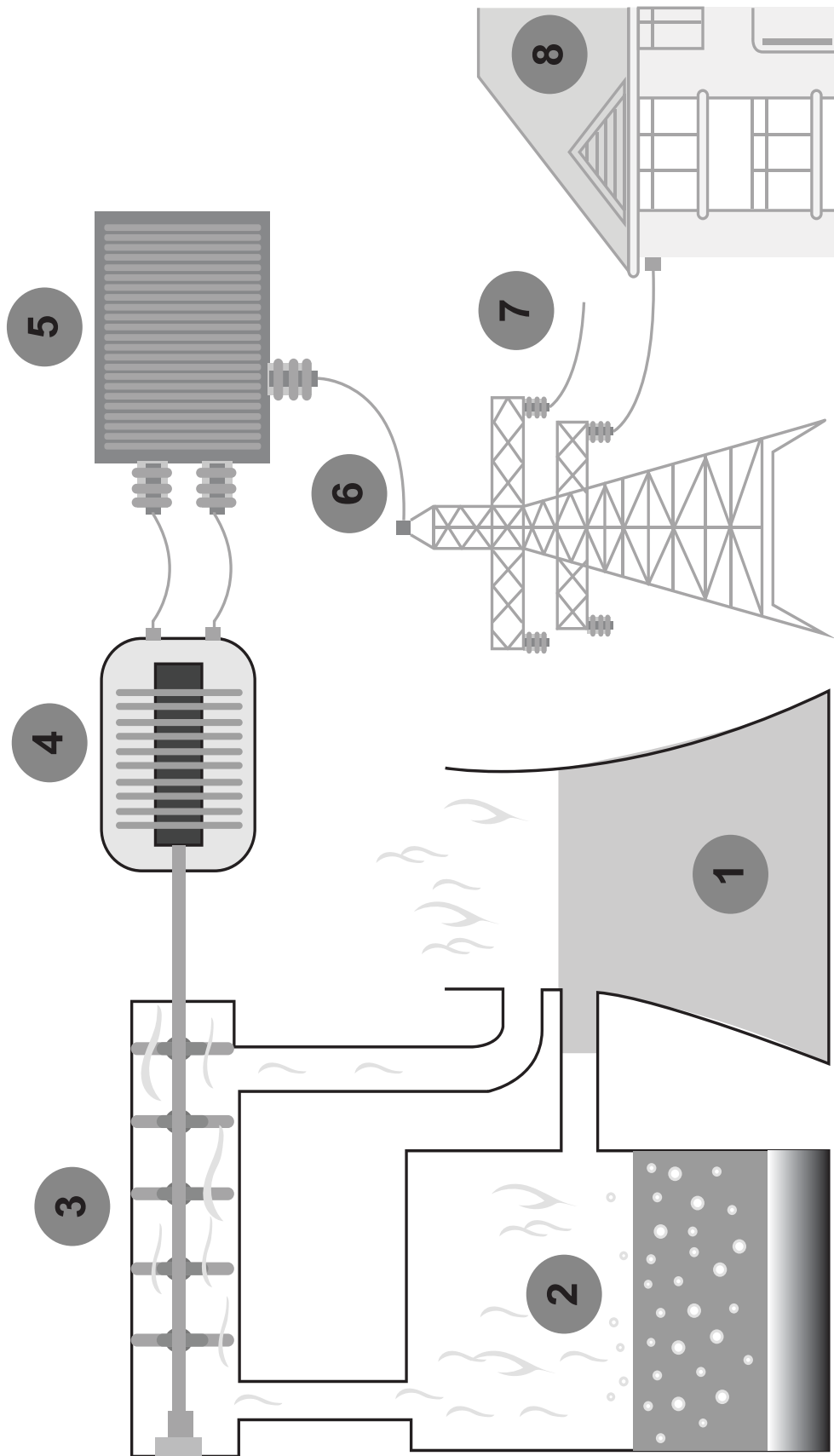


RESOURCE 27

Zoka74/Shutterstock

ILLEGAL ELECTRICITY CONNECTIONS

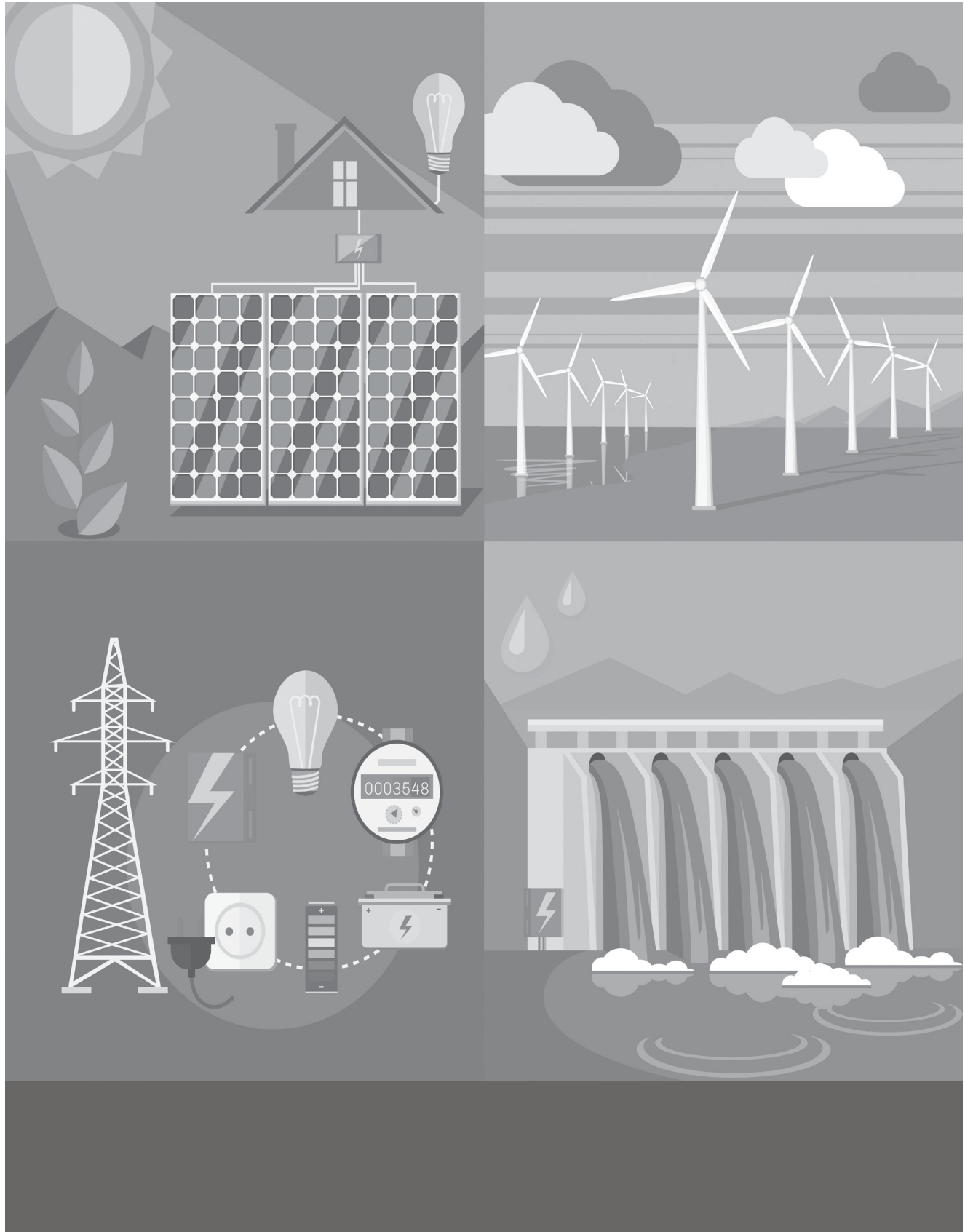




RESOURCE 29

Robuart/Shutterstock

ALTERNATIVE ENERGY SOURCES DIAGRAM



RESOURCE 30

ALTERNATIVE ENERGY SOURCES

Wind

Wind is a renewable energy source and therefore is sustainable. Wind turbines with specially designed aerodynamic blades are used to capture the wind. Wind turbines are positioned in places that receive a large amount of wind, but wind can still stop and start, making wind as a source of energy not very reliable. This source of renewable energy does not produce a large amount of electricity, but it does produce more electricity than wave and sun-heated steam. Wind turbines are more environmentally friendly than fossil fuels, but they still produce noise pollution, they kill birds when they are spinning and they are not visually pleasing.

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RESOURCE 31

MarcelClemens/Shutterstock

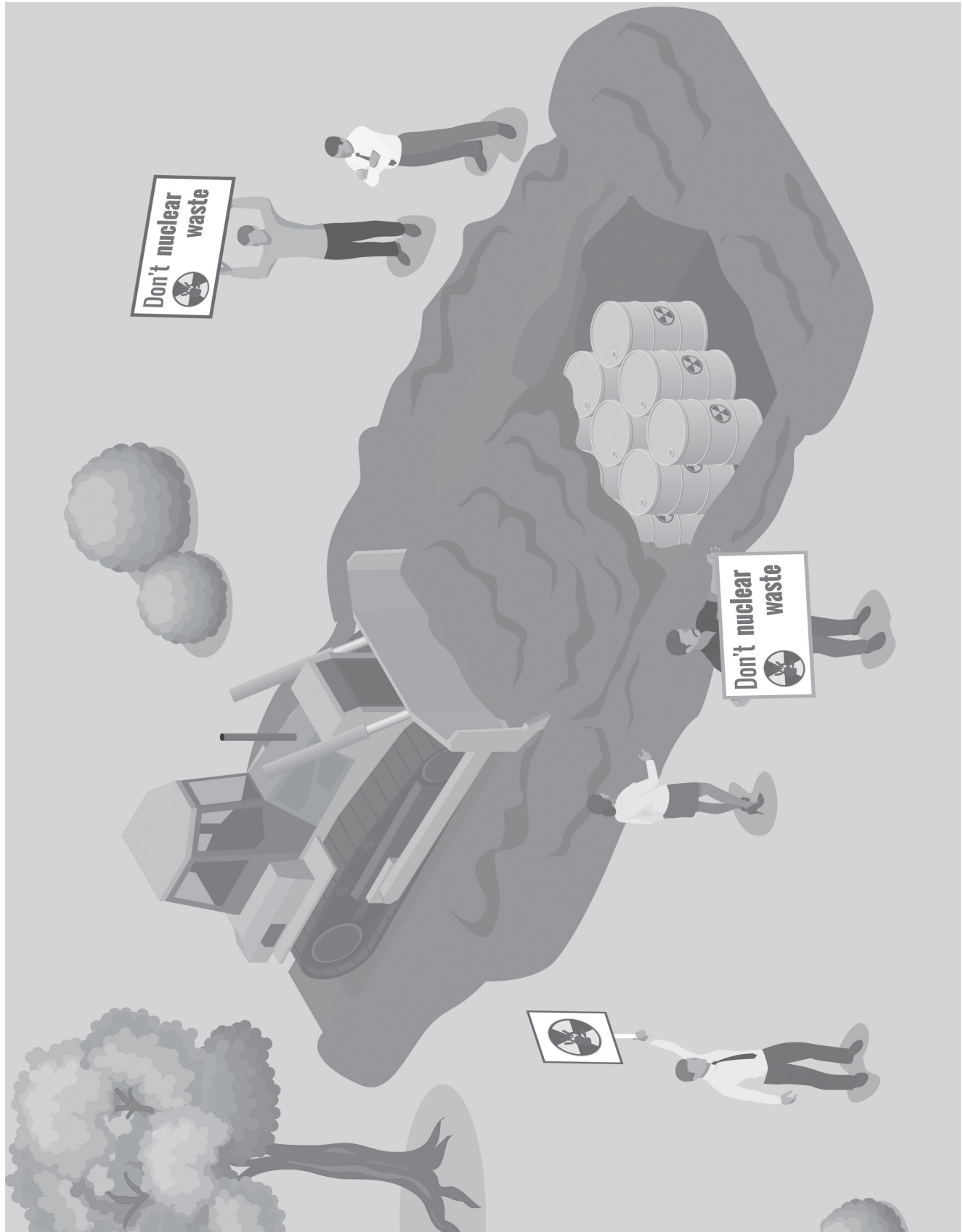
NUCLEAR FUEL: URANIUM



RESOURCE 32

Golden Sikorka/Shutterstock

NUCLEAR WASTE DISPOSAL



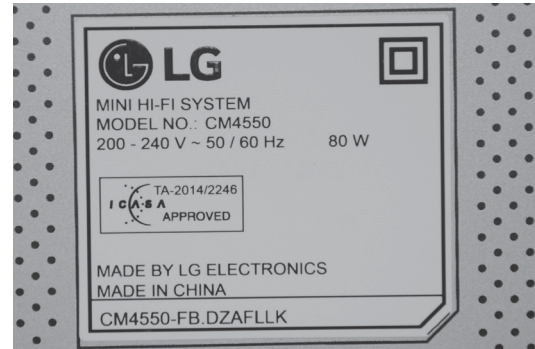
RESOURCE 33

POWER RATING OF DIFFERENT APPLIANCES

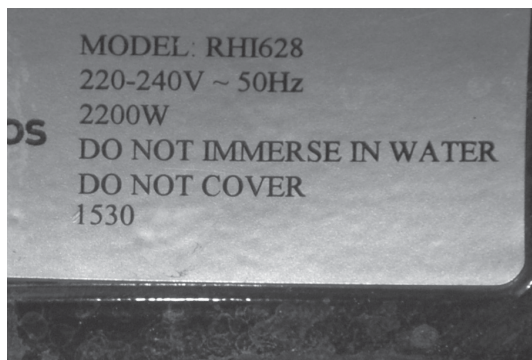
TELEVISION



RADIO/ MINI HI-FI SYSTEM



ELECTRIC IRON



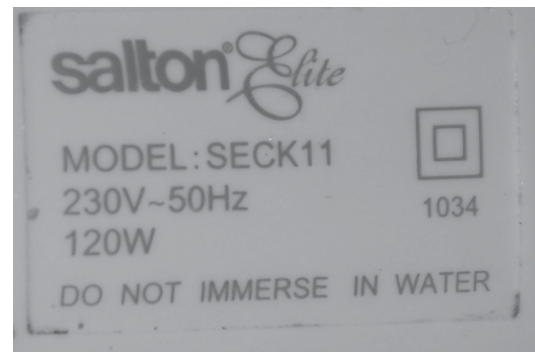
TOASTER



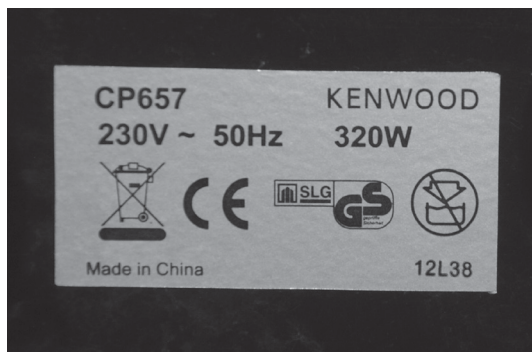
KETTLE



ELECTRIC CARVING KNIFE



SLOW COOKER



RESOURCE 33

POWER RATING OF DIFFERENT APPLIANCES

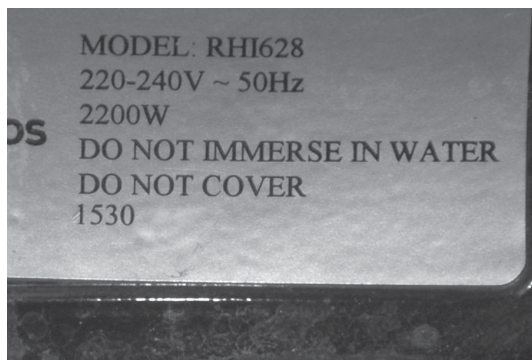
TELEVISION



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ELECTRIC IRON



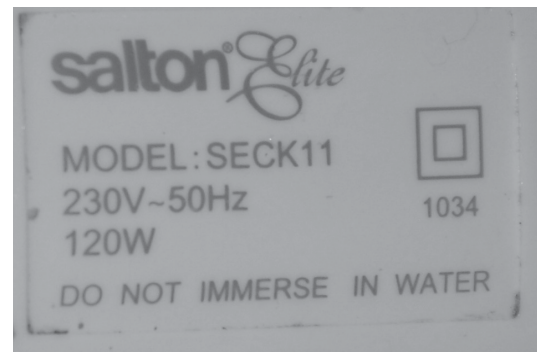
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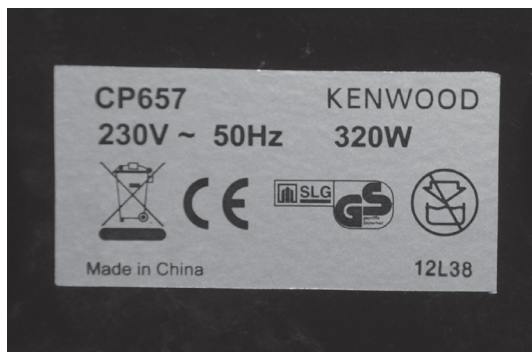
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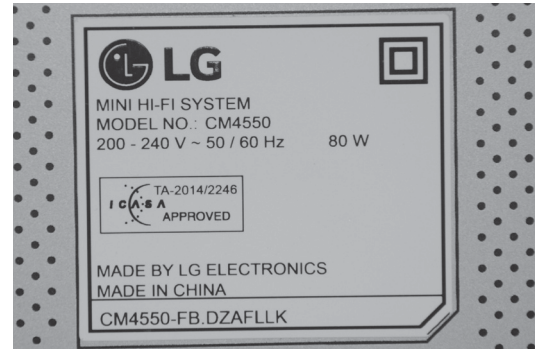
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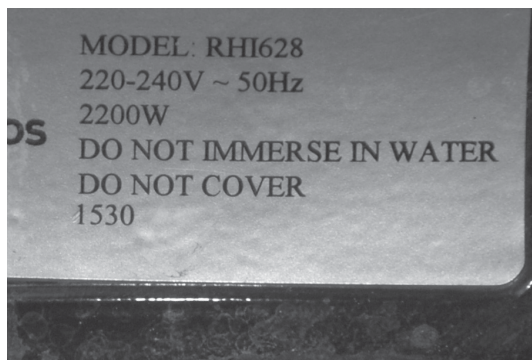
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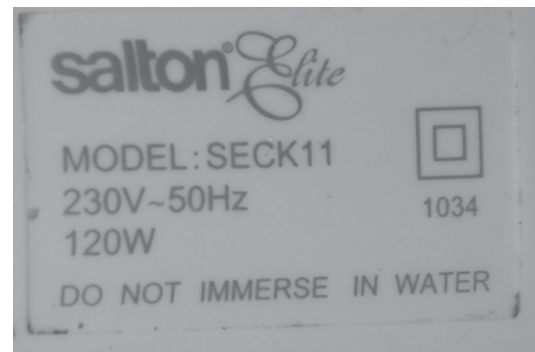
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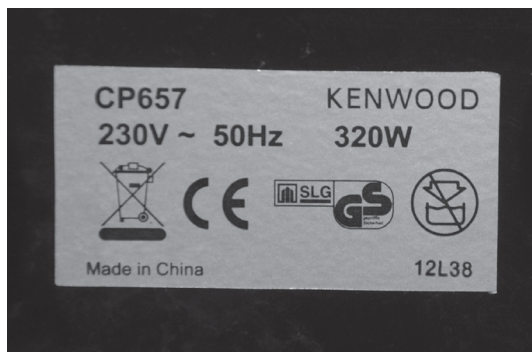
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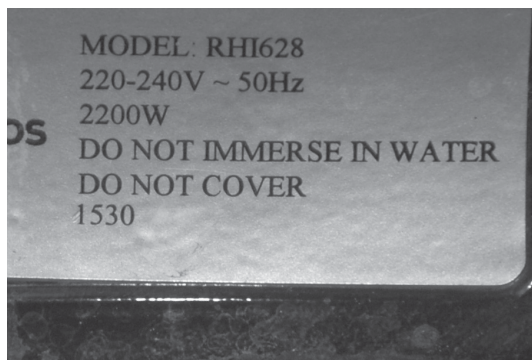
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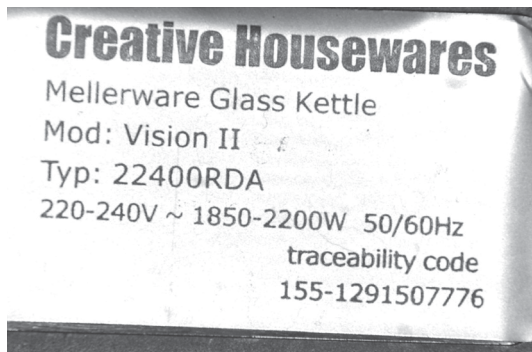
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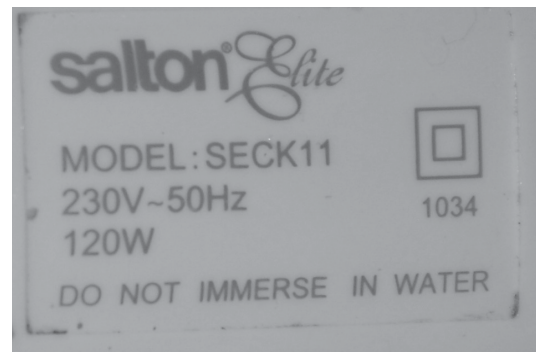
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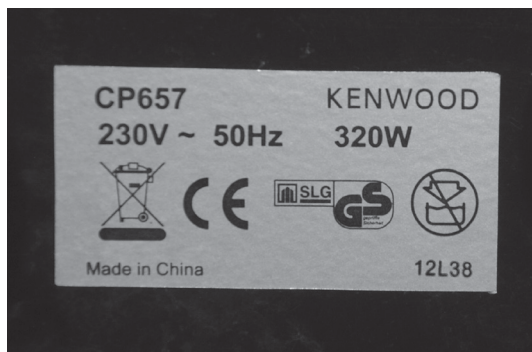
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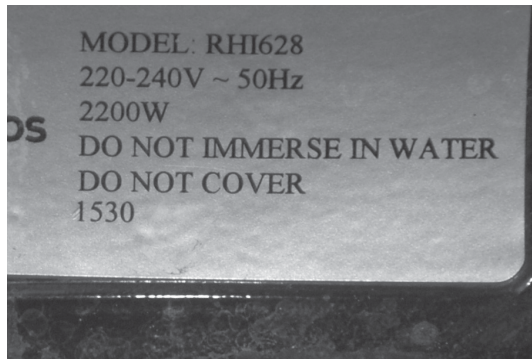
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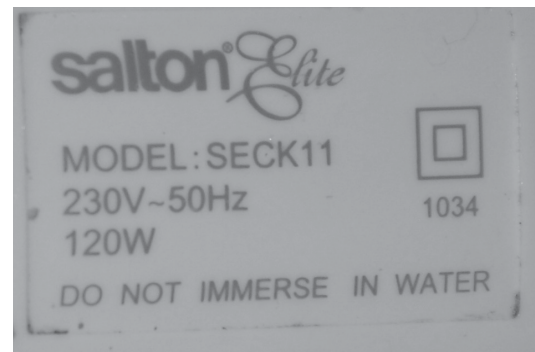
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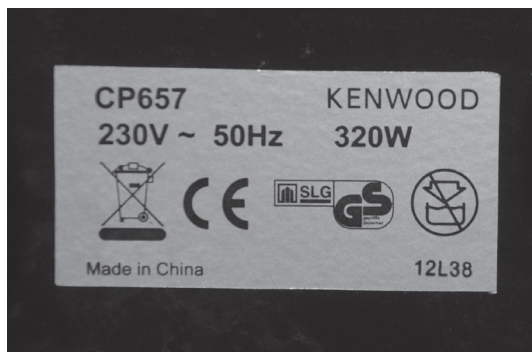
KETTLE



ELECTRIC CARVING KNIFE



SLOW COOKER



RESOURCE 34

SAMPLE ELECTRICITY TARIFF ACCOUNT

Electricity	VAT no.: 4710191182	Subtotal	Total Amount
(Reading period = 2017/08/20 to 2017/09/19 = 31 days)			
Energy meter readings and consumption: Meter no #00003656#ED2 start reading 73.944.000			
And end reading 74.232.000 = 288.000 kWh – Actual Reading			
Energy meter readings and consumption: Meter no #00375659 start reading 18.434.000			
And end reading 19.231.000 = 797.000 kWh – Actual Reading			
Daily average consumption 35.000 kWh			
Charges for 1.085.000 kWh are based on a sliding scale for a 31 day period			
Step 1 509.240 kWh @ R1.1065 (Billing Period 2017/10) Step 2 509.240 kWh @ R1.2698 Step 3 66.520			
kWh @ R 1.3635			
Extended Social Package Grant			
Demand side management levy Demand side management levy			
Service charge			
Network charge			
VAT: 14.00%			
			2,011.43
			247.02
			114.57
			11.52
			0.00
			1.300.80

RESOURCE 35

Panacea Doll/Shutterstock

INCANDESCENT AND FLUORESCENT LIGHT BULBS



RESOURCE 36

Laschon Robert Paul/Shutterstock

SOLAR WATER HEATER DIAGRAM

