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CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**COMBINED SCIENCE**

**0653/01**

Paper 1 Multiple Choice

October/November 2003

**45 minutes**

Additional Materials: Multiple Choice Answer Sheet  
Soft clean eraser  
Soft pencil (type B or HB is recommended)

**READ THESE INSTRUCTIONS FIRST**

Write in soft pencil.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Write your name, Centre number and candidate number on the answer sheet in the spaces provided unless this has been done for you.

There are **forty** questions on this paper. Answer **all** questions. For each question there are four possible answers **A, B, C, and D**.

Choose the **one** you consider correct and record your choice in **soft pencil** on the separate answer sheet.

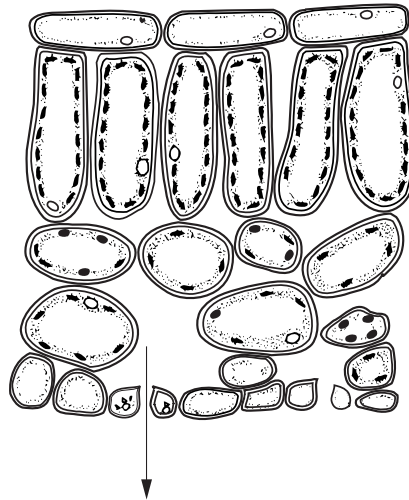
**Read the instructions on the Answer Sheet very carefully.**

Each correct answer will score one mark. A mark will not be deducted for a wrong answer.

Any rough working should be done in this booklet.

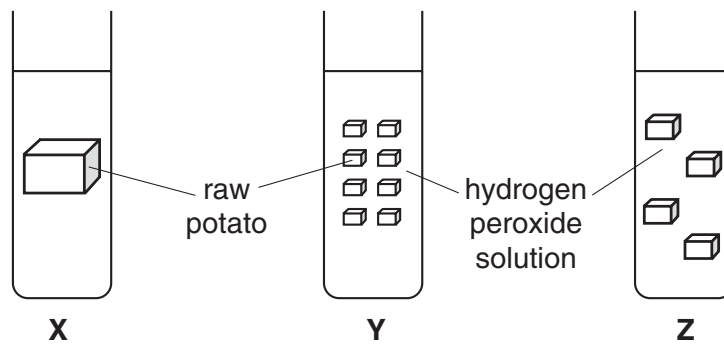
A copy of the Periodic Table is printed on page 20.

- 1 The diagram shows a section through a leaf on a hot and still day. The arrow shows the movement of water vapour.



By which process is the water vapour moving out of the leaf?

- A absorption
  - B diffusion
  - C photosynthesis
  - D secretion
- 2 Three test tubes, X, Y and Z each contain the same volume of dilute hydrogen peroxide solution. Equal volumes of raw potato are added to each tube but the potato is cut into different sized pieces.



The rate of reaction is different in each tube.

What is the correct order?

	highest rate $\longrightarrow$ lowest rate		
<b>A</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
<b>B</b>	<b>Y</b>	<b>Z</b>	<b>X</b>
<b>C</b>	<b>Z</b>	<b>X</b>	<b>Y</b>
<b>D</b>	<b>Z</b>	<b>Y</b>	<b>X</b>

3 Which energy conversion occurs during photosynthesis?

- A chemical  $\rightarrow$  light
- B light  $\rightarrow$  chemical
- C heat  $\rightarrow$  light
- D light  $\rightarrow$  heat

4 A water plant is exposed to sunlight. After a short period of time bubbles are given off from the plant.

Which gas do the bubbles contain, and which process produces this gas?

	gas	process
<b>A</b>	carbon dioxide	photosynthesis
<b>B</b>	carbon dioxide	respiration
<b>C</b>	oxygen	photosynthesis
<b>D</b>	oxygen	respiration

5 Tests carried out on a sick student show that he is deficient in calcium.

What are his symptoms?

- A anaemia
- B bleeding gums
- C breathlessness
- D poor bone growth

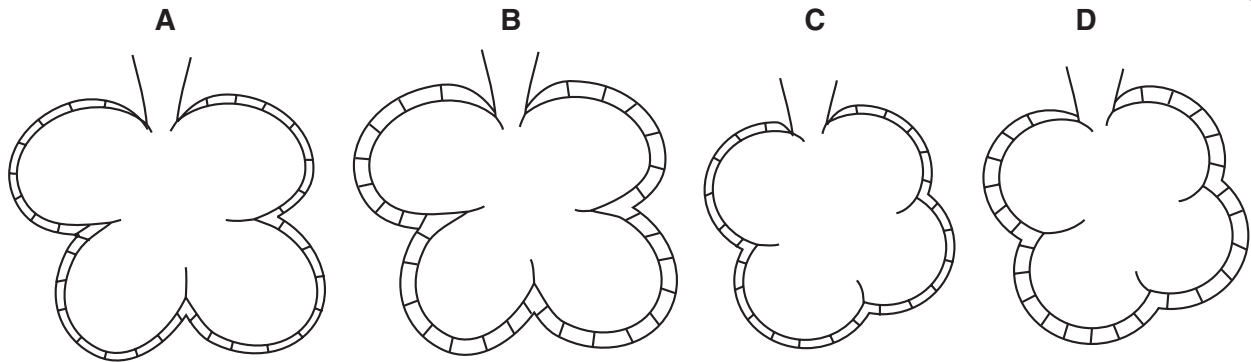
6 Tests were performed on four samples of food. The results are shown in the table.

Which food contains protein **only**?

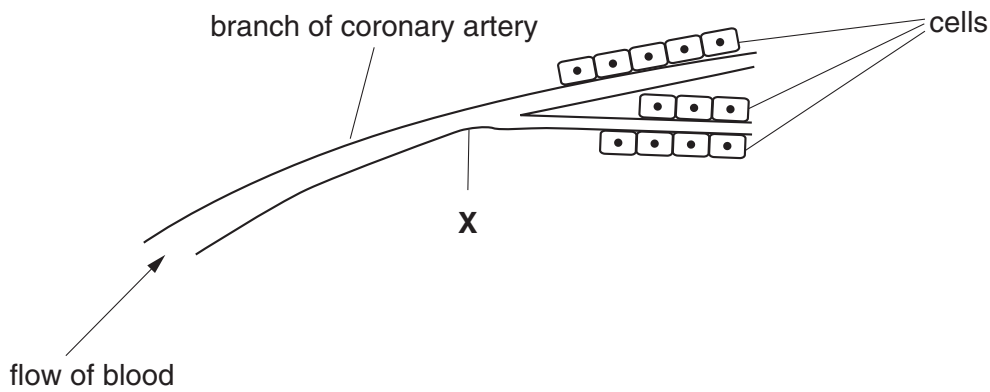
food sample	results of food tests		
	Benedict's test	biuret test	iodine test
<b>A</b>	blue	blue	blue/black
<b>B</b>	blue	purple	brown
<b>C</b>	red	blue	blue/black
<b>D</b>	red	purple	brown

7 The diagrams show alveoli from the lungs.

Which one will allow oxygen to diffuse into the blood most rapidly?



8 The diagram shows the blood supply to a group of muscle cells in the heart.



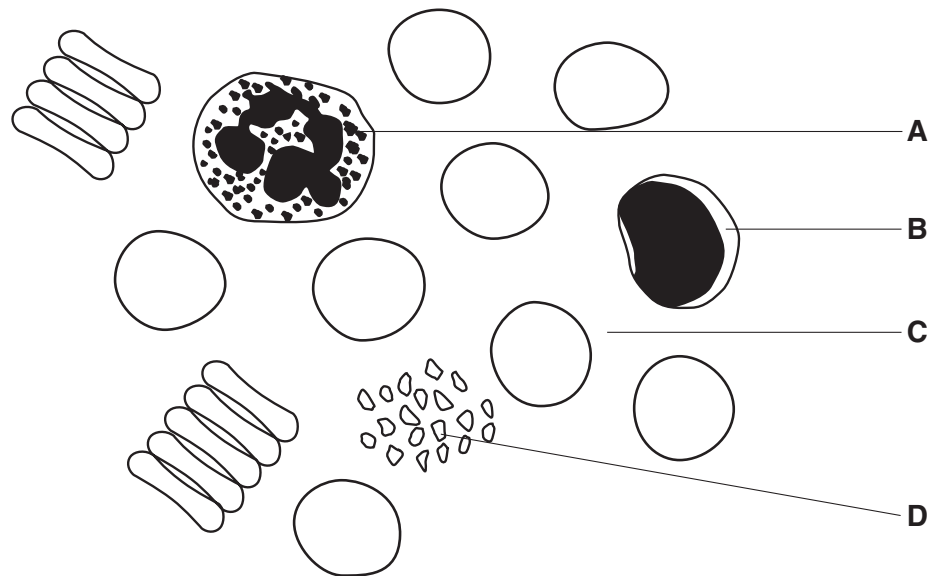
A blockage at point X causes a heart attack because a vital substance cannot reach the cells of the heart.

What is the vital substance?

- A amino acid
- B carbon dioxide
- C oxygen
- D urea

9 The drawing shows some blood, as it appears under the microscope.

Which part carries glucose to muscles?



10 Water moves through the stomata of leaves during transpiration.

In which direction, and in which form, does it move?

	direction	form
<b>A</b>	into the leaf	liquid
<b>B</b>	into the leaf	vapour
<b>C</b>	out of the leaf	liquid
<b>D</b>	out of the leaf	vapour

11 In what order are these structures involved in responding to a stimulus?

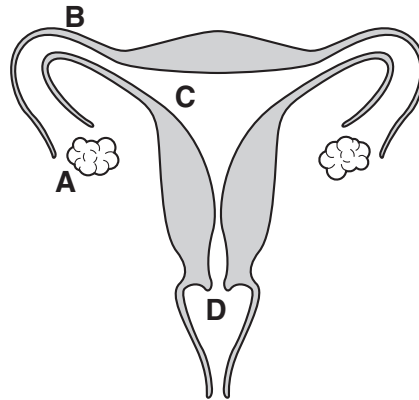
- A** central nervous system → effector → receptor
- B** effector → central nervous system → receptor
- C** receptor → central nervous system → effector
- D** receptor → effector → central nervous system

12 During pollination, pollen grains are transferred from

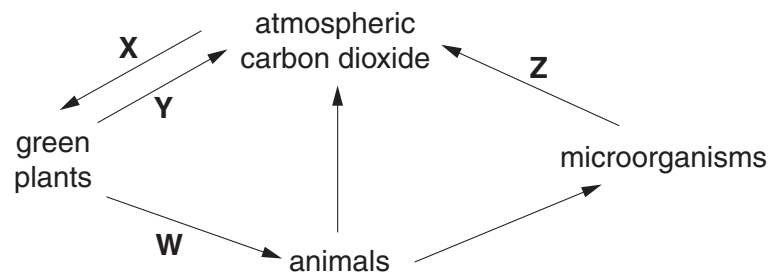
- A anther to ovule.
- B anther to stigma.
- C stigma to anther.
- D stigma to ovule.

13 The diagram shows the human female reproductive organs.

Where is a fertilised egg normally implanted?



14 The diagram shows four processes, W, X, Y and Z that form part of the carbon cycle.



Which two processes represent respiration?

- A W and X
- B X and Y
- C Y and Z
- D Z and W

- 15 On heating iron and sulphur together, the mixture starts to glow. The glow then continues when the heating is stopped.

In this reaction, .....**X**..... heat is given out and a new .....**Y**..... is formed.

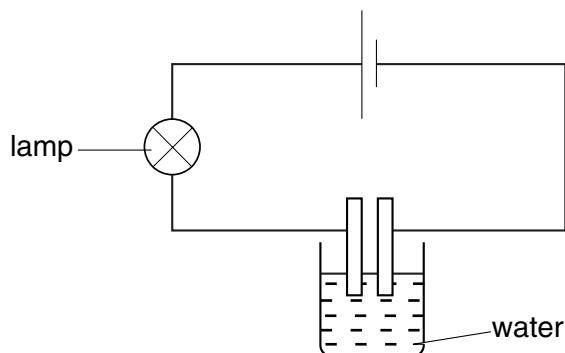
What are words **X** and **Y**?

	<b>X</b>	<b>Y</b>
<b>A</b>	no	element
<b>B</b>	no	compound
<b>C</b>	some	element
<b>D</b>	some	compound

- 16 Which material is the main source of the molecules that are used to make most plastics?

- A** air
- B** coal
- C** limestone
- D** petroleum

- 17 The apparatus shown can be used to test a property of compound **R**.



When compound **R** is dissolved in the water, the lamp lights.

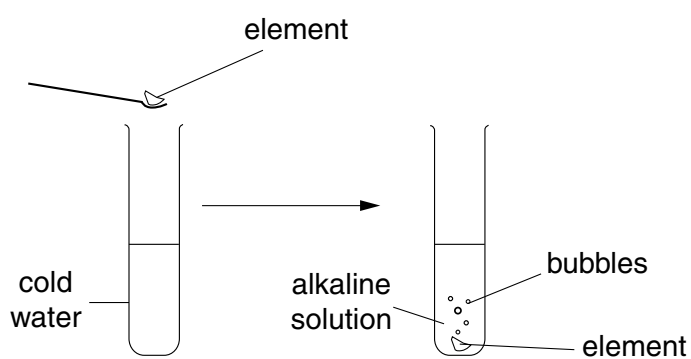
Which statements about **R** are correct?

	type of bonding	elements in compound
<b>A</b>	covalent	a metal and a non-metal
<b>B</b>	covalent	non-metals only
<b>C</b>	ionic	a metal and a non-metal
<b>D</b>	ionic	non-metals only





22 The diagrams show an experiment.



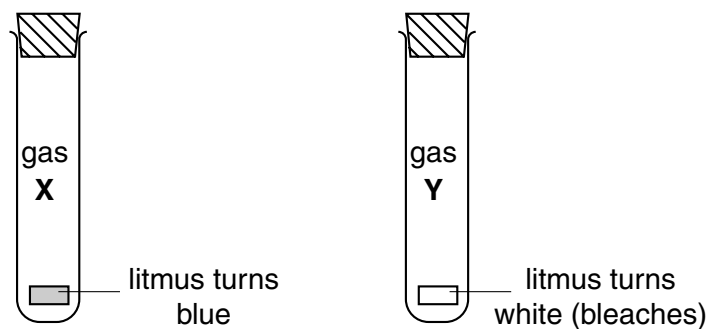
What could the element be?

- A calcium
  - B carbon
  - C iron
  - D sulphur
- 23 A student wants to make magnesium nitrate by reacting magnesium oxide with an acid.

What is the formula of the acid he should use?

- A  $\text{NH}_3$
- B  $\text{NO}_2$
- C  $\text{HNO}_2$
- D  $\text{HNO}_3$

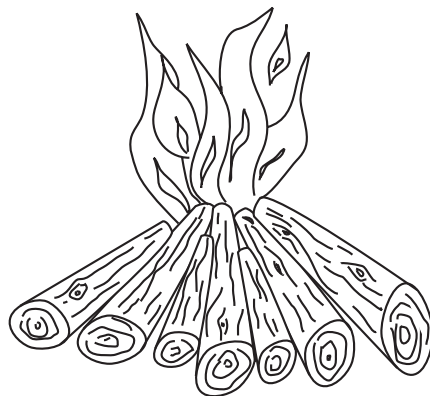
- 24 The diagram shows what happens when damp red litmus paper is placed into two test tubes containing different gases, X and Y.



What are gases X and Y?

	X	Y
A	ammonia	carbon dioxide
B	ammonia	chlorine
C	chlorine	ammonia
D	chlorine	carbon dioxide

- 25 The diagram shows wood burning.



Which description of wood burning is correct?

- A Both oxidation and reduction occur.
- B Only decomposition occurs.
- C Only oxidation occurs.
- D Only reduction occurs.

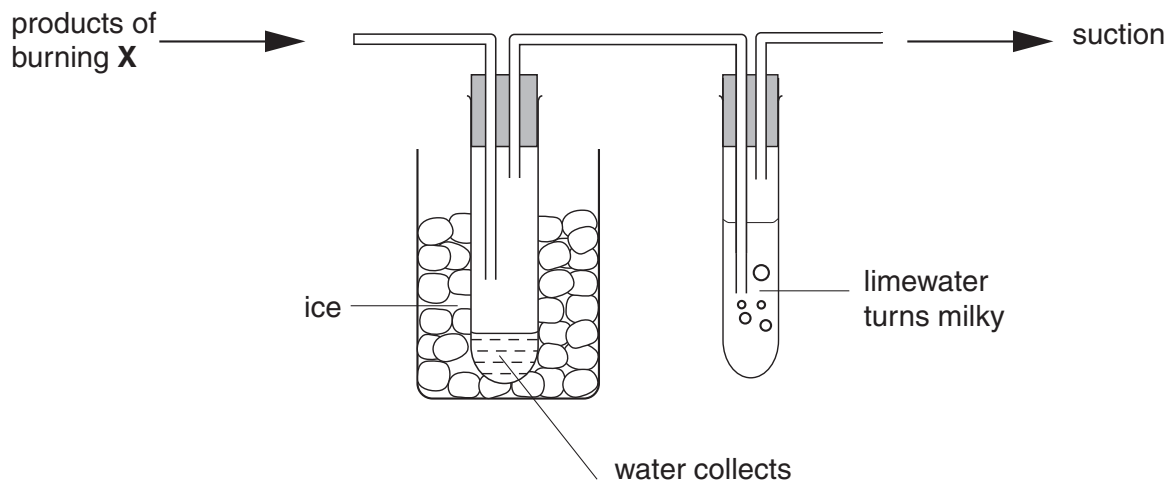
26 A solution is tested for the presence of cations.

test	result
adding an excess of aqueous ammonia	green precipitate

Which cation is present?

- A  $\text{Cu}^{2+}$
- B  $\text{Fe}^{2+}$
- C  $\text{Fe}^{3+}$
- D  $\text{Zn}^{2+}$

27 When substance **X** burns, two products form.

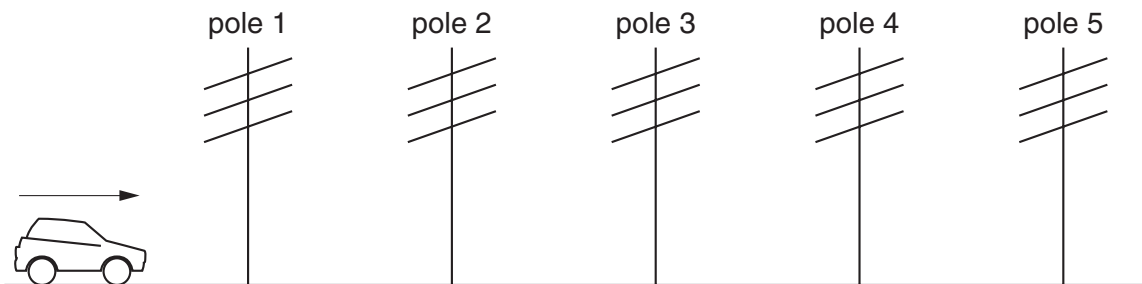


What is **X**?

- A carbon monoxide,  $\text{CO}$
- B ethane,  $\text{C}_2\text{H}_6$
- C hydrogen,  $\text{H}_2$
- D sulphur,  $\text{S}$

- 28 Which of the following is **not** necessary when using a measuring cylinder to measure the volume of a quantity of water?
- A making sure that the measuring cylinder is vertical
  - B making sure that your eye is level with the liquid surface
  - C reading the bottom of the meniscus
  - D using the largest measuring cylinder possible

- 29 Five telegraph poles are positioned at equal distances along the side of a road.



A car accelerates until it is level with pole 4. The car then continues along the road at a steady speed. The times taken to travel between one pole and the next are measured.

Which time is the greatest?

The time between

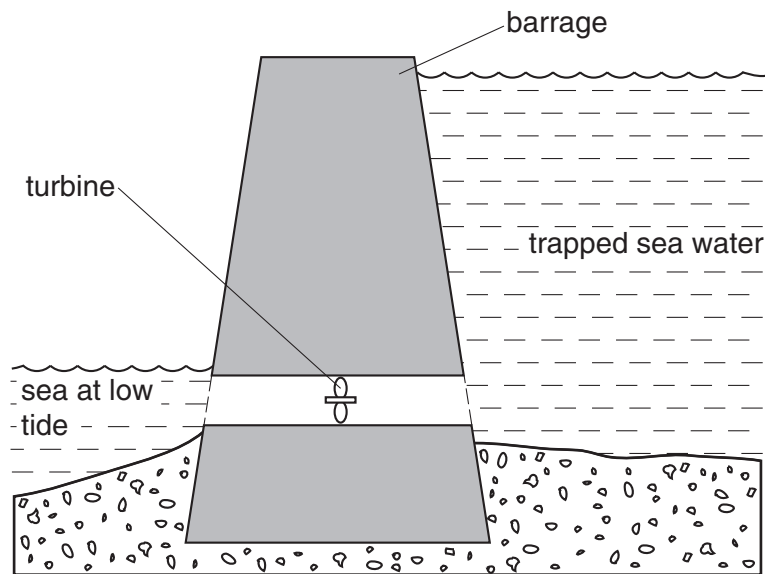
- A pole 1 and pole 2.
  - B pole 2 and pole 3.
  - C pole 3 and pole 4.
  - D pole 4 and pole 5.
- 30 A student tries to find the density of a metal block. First he measures the weight with a forcemeter (spring balance). Next he measures the sides of the block using a rule, in order to calculate the volume of the block. Finally he divides the weight by the volume to find the density.

The student has made a mistake.

Why does his method **not** give the density?

- A Density is volume divided by weight.
- B He should have measured the surface area, not the volume.
- C He should have used the mass in his calculation, not the weight.
- D Weight is not measured with a forcemeter (spring balance).

- 31 A tidal power station is made by building a barrage across the mouth of a river. At sea water is trapped behind the barrage.



At low tide the water is allowed to flow back into the sea through a turbine.

What is the useful energy change in a tidal power station?

- A electrical energy  $\rightarrow$  energy of position (potential)
  - B electrical energy  $\rightarrow$  energy of motion (kinetic)
  - C energy of motion (kinetic)  $\rightarrow$  energy of position (potential)
  - D energy of position (potential)  $\rightarrow$  electrical energy
- 32 There is a vacuum between the double walls of a vacuum flask.

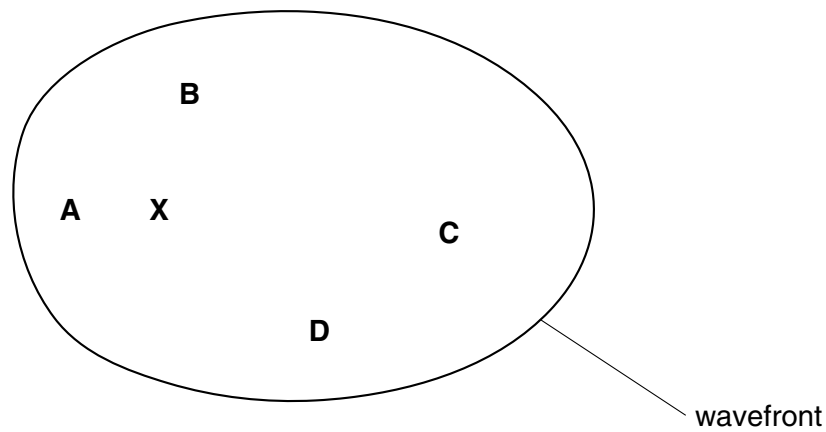
Which types of heat transfer are reduced by the vacuum?

- A conduction and convection
- B conduction and radiation
- C convection and radiation
- D conduction, convection and radiation

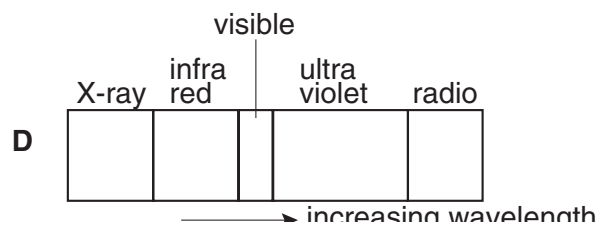
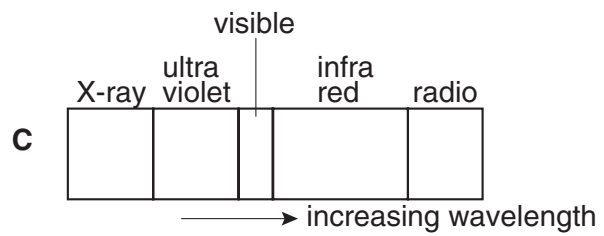
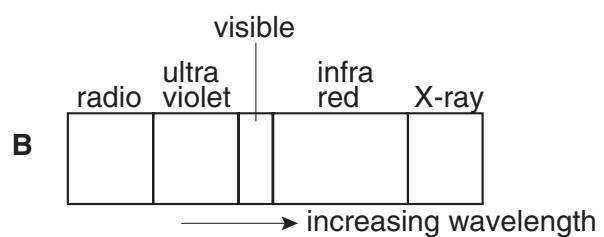
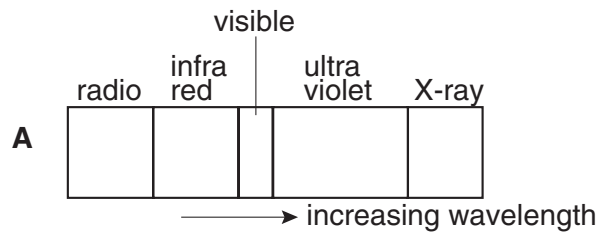
33 Waves travel more slowly on the surface of water when the water is shallow.

A person drops a stone into a pool at **X**. The diagram shows the first wavefront on the surface of the pool.

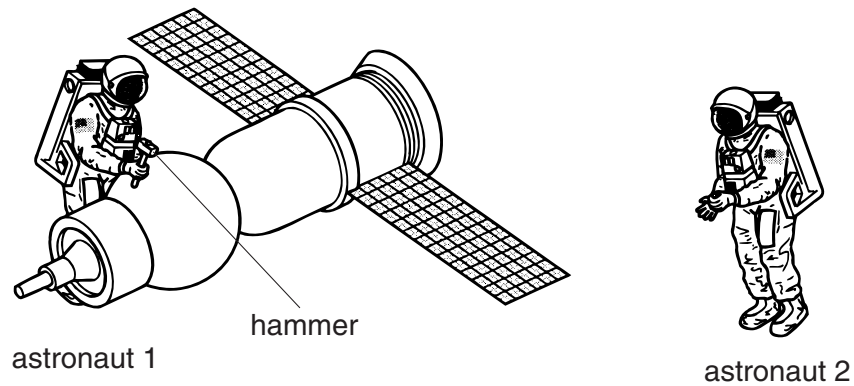
Which region of the pool is likely to be most shallow?



34 Which diagram shows the correct order of the waves in the electromagnetic spectrum?



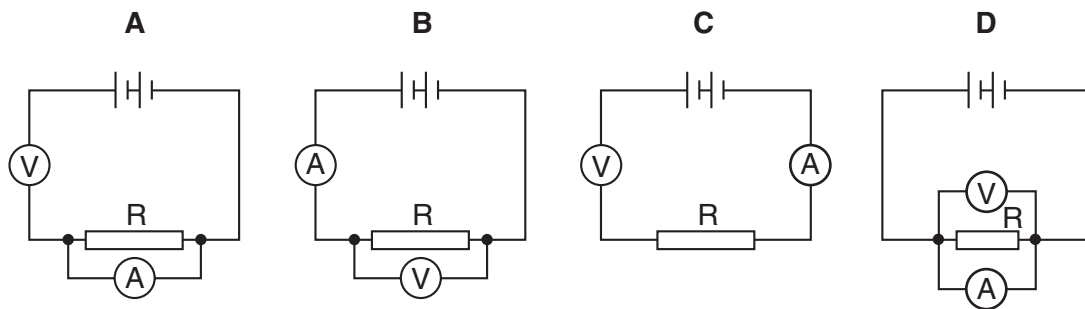
- 35 Astronaut 1 uses a hammer to mend a satellite in space. Astronaut 2 is nearby. atmosphere in space.



Compared with the sound heard if they were working on Earth, what does astronaut 2 hear?

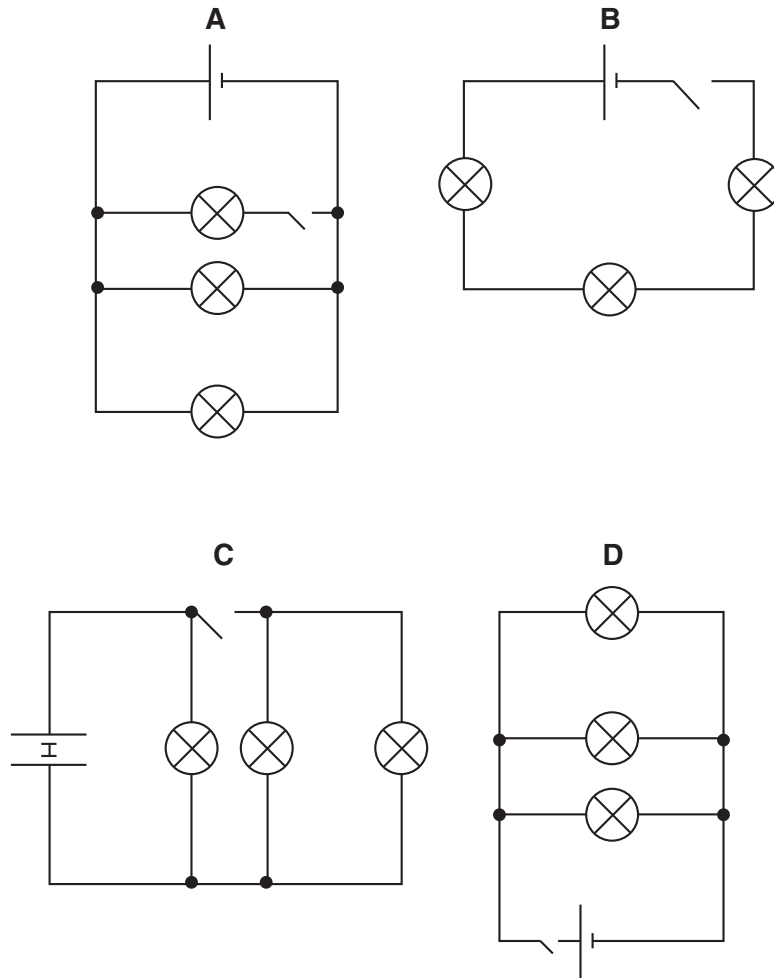
- A no sound at all
  - B a quieter sound
  - C a sound of the same loudness
  - D a louder sound
- 36 A student wants to find the resistance of resistor R using a voltmeter and an ammeter.

Which circuit should the student use?



- 37 Four students are asked to draw a circuit showing three lamps working in parallel, switch that controls all three lamps.

Which student is correct?



- 38 A  $3.0\ \Omega$  lamp and a  $6.0\ \Omega$  lamp are connected in series.

What is the total resistance of the combination?

- A  $0.5\ \Omega$
- B  $2.0\ \Omega$
- C  $9.0\ \Omega$
- D  $18.0\ \Omega$



39 How is electricity transmitted over large distances and why is it transmitted in this way?

	how	why
<b>A</b>	at high voltage	for safety
<b>B</b>	at high voltage	to reduce energy loss
<b>C</b>	at low voltage	for safety
<b>D</b>	at low voltage	to reduce energy loss

40 Which line in the table describes the nature of an  $\alpha$ -particle and a  $\gamma$ -ray?

	$\alpha$ -particle	$\gamma$ -ray
<b>A</b>	helium nucleus	electromagnetic radiation
<b>B</b>	helium nucleus	electron
<b>C</b>	proton	electromagnetic radiation
<b>D</b>	proton	electron





**DATA SHEET**  
**The Periodic Table of the Elements**  
**Group**

I	II	III	IV	V	VI	VII	0
7 <b>Li</b> Lithium	9 <b>Be</b> Beryllium	11 <b>B</b> Boron	12 <b>C</b> Carbon	14 <b>N</b> Nitrogen	16 <b>O</b> Oxygen	19 <b>F</b> Fluorine	20 <b>Ne</b> Neon
23 <b>Na</b> Sodium	24 <b>Mg</b> Magnesium	27 <b>Al</b> Aluminium	28 <b>Si</b> Silicon	31 <b>P</b> Phosphorus	32 <b>S</b> Sulphur	35.5 <b>Cl</b> Chlorine	40 <b>Ar</b> Argon
39 <b>K</b> Potassium	40 <b>Ca</b> Calcium	45 <b>Sc</b> Scandium	48 <b>Ti</b> Titanium	51 <b>V</b> Vanadium	52 <b>Cr</b> Chromium	55 <b>Mn</b> Manganese	56 <b>Fe</b> Iron
85 <b>Rb</b> Rubidium	88 <b>Sr</b> Strontium	89 <b>Y</b> Yttrium	91 <b>Zr</b> Zirconium	93 <b>Nb</b> Niobium	96 <b>Mo</b> Molybdenum	101 <b>Ru</b> Ruthenium	106 <b>Pd</b> Palladium
133 <b>Cs</b> Caesium	137 <b>Ba</b> Barium	139 <b>La</b> Lanthanum	178 <b>Hf</b> Hafnium	181 <b>Ta</b> Tantalum	184 <b>W</b> Tungsten	190 <b>Os</b> Osmium	195 <b>Pt</b> Platinum
226 <b>Fr</b> Francium	227 <b>Ra</b> Radium	227 <b>Ac</b> Actinium	227 <b>Th</b> Thorium	232 <b>Pa</b> Protactinium	238 <b>U</b> Uranium	238 <b>Np</b> Neptunium	238 <b>Pu</b> Plutonium
57 <b>La</b> Lanthanoid series	89 <b>Ac</b> Actinoid series	58 <b>Ce</b> Cerium	59 <b>Pr</b> Praseodymium	60 <b>Nd</b> Neodymium	61 <b>Pm</b> Promethium	62 <b>Sm</b> Samarium	63 <b>Eu</b> Europium
69 <b>Er</b> Erbium	70 <b>Yb</b> Ytterbium	71 <b>Lu</b> Lutetium	72 <b>Tm</b> Thulium	73 <b>Yb</b> Ytterbium	74 <b>Lu</b> Lutetium	75 <b>Hf</b> Hafnium	76 <b>Ta</b> Tantalum
81 <b>Tl</b> Thallium	82 <b>Pb</b> Lead	83 <b>Bi</b> Bismuth	84 <b>Po</b> Polonium	85 <b>At</b> Astatine	86 <b>Rn</b> Radon	87 <b>Fr</b> Francium	88 <b>Ra</b> Radium
89 <b>La</b> Lanthanoid series	90 <b>Th</b> Thorium	91 <b>Pa</b> Protactinium	92 <b>U</b> Uranium	93 <b>Np</b> Neptunium	94 <b>Pu</b> Plutonium	95 <b>Am</b> Americium	96 <b>Cm</b> Curium
97 <b>Bk</b> Berkelium	98 <b>Cf</b> Californium	99 <b>Es</b> Einsteinium	100 <b>Fm</b> Fermium	101 <b>Md</b> Mendelevium	102 <b>No</b> Nobelium	103 <b>Lr</b> Lawrencium	104 <b>Rf</b> Rutherfordium
105 <b>Db</b> Dubnium	106 <b>Sg</b> Seaborgium	107 <b>Bh</b> Bohrium	108 <b>Hs</b> Hassium	109 <b>Mt</b> Meitnerium	110 <b>Ds</b> Darmstadtium	111 <b>Rg</b> Roentgenium	112 <b>Cn</b> Copernicium
113 <b>Nh</b> Nihonium	114 <b>Fl</b> Flerovium	115 <b>Mc</b> Moscovium	116 <b>Lv</b> Livermorium	117 <b>Ts</b> Tennessine	118 <b>Og</b> Oganesson	119 <b>Uu</b> Ununennium	120 <b>Ubn</b> Unbinilium
121 <b>Uuh</b> Unhennium	122 <b>Uub</b> Unbibium	123 <b>Uut</b> Untrium	124 <b>Uuq</b> Unquadium	125 <b>Uuq</b> Unquadium	126 <b>Uuq</b> Unquadium	127 <b>Uuq</b> Unquadium	128 <b>Uuq</b> Unquadium
129 <b>Uuq</b> Unquadium	130 <b>Uuq</b> Unquadium	131 <b>Uuq</b> Unquadium	132 <b>Uuq</b> Unquadium	133 <b>Uuq</b> Unquadium	134 <b>Uuq</b> Unquadium	135 <b>Uuq</b> Unquadium	136 <b>Uuq</b> Unquadium
137 <b>Uuq</b> Unquadium	138 <b>Uuq</b> Unquadium	139 <b>Uuq</b> Unquadium	140 <b>Uuq</b> Unquadium	141 <b>Uuq</b> Unquadium	142 <b>Uuq</b> Unquadium	143 <b>Uuq</b> Unquadium	144 <b>Uuq</b> Unquadium
145 <b>Uuq</b> Unquadium	146 <b>Uuq</b> Unquadium	147 <b>Uuq</b> Unquadium	148 <b>Uuq</b> Unquadium	149 <b>Uuq</b> Unquadium	150 <b>Uuq</b> Unquadium	151 <b>Uuq</b> Unquadium	152 <b>Uuq</b> Unquadium
153 <b>Uuq</b> Unquadium	154 <b>Uuq</b> Unquadium	155 <b>Uuq</b> Unquadium	156 <b>Uuq</b> Unquadium	157 <b>Uuq</b> Unquadium	158 <b>Uuq</b> Unquadium	159 <b>Uuq</b> Unquadium	160 <b>Uuq</b> Unquadium
161 <b>Uuq</b> Unquadium	162 <b>Uuq</b> Unquadium	163 <b>Uuq</b> Unquadium	164 <b>Uuq</b> Unquadium	165 <b>Uuq</b> Unquadium	166 <b>Uuq</b> Unquadium	167 <b>Uuq</b> Unquadium	168 <b>Uuq</b> Unquadium
169 <b>Uuq</b> Unquadium	170 <b>Uuq</b> Unquadium	171 <b>Uuq</b> Unquadium	172 <b>Uuq</b> Unquadium	173 <b>Uuq</b> Unquadium	174 <b>Uuq</b> Unquadium	175 <b>Uuq</b> Unquadium	176 <b>Uuq</b> Unquadium
177 <b>Uuq</b> Unquadium	178 <b>Uuq</b> Unquadium	179 <b>Uuq</b> Unquadium	180 <b>Uuq</b> Unquadium	181 <b>Uuq</b> Unquadium	182 <b>Uuq</b> Unquadium	183 <b>Uuq</b> Unquadium	184 <b>Uuq</b> Unquadium
185 <b>Uuq</b> Unquadium	186 <b>Uuq</b> Unquadium	187 <b>Uuq</b> Unquadium	188 <b>Uuq</b> Unquadium	189 <b>Uuq</b> Unquadium	190 <b>Uuq</b> Unquadium	191 <b>Uuq</b> Unquadium	192 <b>Uuq</b> Unquadium
193 <b>Uuq</b> Unquadium	194 <b>Uuq</b> Unquadium	195 <b>Uuq</b> Unquadium	196 <b>Uuq</b> Unquadium	197 <b>Uuq</b> Unquadium	198 <b>Uuq</b> Unquadium	199 <b>Uuq</b> Unquadium	200 <b>Uuq</b> Unquadium
201 <b>Uuq</b> Unquadium	202 <b>Uuq</b> Unquadium	203 <b>Uuq</b> Unquadium	204 <b>Uuq</b> Unquadium	205 <b>Uuq</b> Unquadium	206 <b>Uuq</b> Unquadium	207 <b>Uuq</b> Unquadium	208 <b>Uuq</b> Unquadium
209 <b>Uuq</b> Unquadium	210 <b>Uuq</b> Unquadium	211 <b>Uuq</b> Unquadium	212 <b>Uuq</b> Unquadium	213 <b>Uuq</b> Unquadium	214 <b>Uuq</b> Unquadium	215 <b>Uuq</b> Unquadium	216 <b>Uuq</b> Unquadium
217 <b>Uuq</b> Unquadium	218 <b>Uuq</b> Unquadium	219 <b>Uuq</b> Unquadium	220 <b>Uuq</b> Unquadium	221 <b>Uuq</b> Unquadium	222 <b>Uuq</b> Unquadium	223 <b>Uuq</b> Unquadium	224 <b>Uuq</b> Unquadium
225 <b>Uuq</b> Unquadium	226 <b>Uuq</b> Unquadium	227 <b>Uuq</b> Unquadium	228 <b>Uuq</b> Unquadium	229 <b>Uuq</b> Unquadium	230 <b>Uuq</b> Unquadium	231 <b>Uuq</b> Unquadium	232 <b>Uuq</b> Unquadium
233 <b>Uuq</b> Unquadium	234 <b>Uuq</b> Unquadium	235 <b>Uuq</b> Unquadium	236 <b>Uuq</b> Unquadium	237 <b>Uuq</b> Unquadium	238 <b>Uuq</b> Unquadium	239 <b>Uuq</b> Unquadium	240 <b>Uuq</b> Unquadium
241 <b>Uuq</b> Unquadium	242 <b>Uuq</b> Unquadium	243 <b>Uuq</b> Unquadium	244 <b>Uuq</b> Unquadium	245 <b>Uuq</b> Unquadium	246 <b>Uuq</b> Unquadium	247 <b>Uuq</b> Unquadium	248 <b>Uuq</b> Unquadium
249 <b>Uuq</b> Unquadium	250 <b>Uuq</b> Unquadium	251 <b>Uuq</b> Unquadium	252 <b>Uuq</b> Unquadium	253 <b>Uuq</b> Unquadium	254 <b>Uuq</b> Unquadium	255 <b>Uuq</b> Unquadium	256 <b>Uuq</b> Unquadium
257 <b>Uuq</b> Unquadium	258 <b>Uuq</b> Unquadium	259 <b>Uuq</b> Unquadium	260 <b>Uuq</b> Unquadium	261 <b>Uuq</b> Unquadium	262 <b>Uuq</b> Unquadium	263 <b>Uuq</b> Unquadium	264 <b>Uuq</b> Unquadium
265 <b>Uuq</b> Unquadium	266 <b>Uuq</b> Unquadium	267 <b>Uuq</b> Unquadium	268 <b>Uuq</b> Unquadium	269 <b>Uuq</b> Unquadium	270 <b>Uuq</b> Unquadium	271 <b>Uuq</b> Unquadium	272 <b>Uuq</b> Unquadium
273 <b>Uuq</b> Unquadium	274 <b>Uuq</b> Unquadium	275 <b>Uuq</b> Unquadium	276 <b>Uuq</b> Unquadium	277 <b>Uuq</b> Unquadium	278 <b>Uuq</b> Unquadium	279 <b>Uuq</b> Unquadium	280 <b>Uuq</b> Unquadium
281 <b>Uuq</b> Unquadium	282 <b>Uuq</b> Unquadium	283 <b>Uuq</b> Unquadium	284 <b>Uuq</b> Unquadium	285 <b>Uuq</b> Unquadium	286 <b>Uuq</b> Unquadium	287 <b>Uuq</b> Unquadium	288 <b>Uuq</b> Unquadium
289 <b>Uuq</b> Unquadium	290 <b>Uuq</b> Unquadium	291 <b>Uuq</b> Unquadium	292 <b>Uuq</b> Unquadium	293 <b>Uuq</b> Unquadium	294 <b>Uuq</b> Unquadium	295 <b>Uuq</b> Unquadium	296 <b>Uuq</b> Unquadium
297 <b>Uuq</b> Unquadium	298 <b>Uuq</b> Unquadium	299 <b>Uuq</b> Unquadium	300 <b>Uuq</b> Unquadium	301 <b>Uuq</b> Unquadium	302 <b>Uuq</b> Unquadium	303 <b>Uuq</b> Unquadium	304 <b>Uuq</b> Unquadium
305 <b>Uuq</b> Unquadium	306 <b>Uuq</b> Unquadium	307 <b>Uuq</b> Unquadium	308 <b>Uuq</b> Unquadium	309 <b>Uuq</b> Unquadium	310 <b>Uuq</b> Unquadium	311 <b>Uuq</b> Unquadium	312 <b>Uuq</b> Unquadium
313 <b>Uuq</b> Unquadium	314 <b>Uuq</b> Unquadium	315 <b>Uuq</b> Unquadium	316 <b>Uuq</b> Unquadium	317 <b>Uuq</b> Unquadium	318 <b>Uuq</b> Unquadium	319 <b>Uuq</b> Unquadium	320 <b>Uuq</b> Unquadium
321 <b>Uuq</b> Unquadium	322 <b>Uuq</b> Unquadium	323 <b>Uuq</b> Unquadium	324 <b>Uuq</b> Unquadium	325 <b>Uuq</b> Unquadium	326 <b>Uuq</b> Unquadium	327 <b>Uuq</b> Unquadium	328 <b>Uuq</b> Unquadium
329 <b>Uuq</b> Unquadium	330 <b>Uuq</b> Unquadium	331 <b>Uuq</b> Unquadium	332 <b>Uuq</b> Unquadium	333 <b>Uuq</b> Unquadium	334 <b>Uuq</b> Unquadium	335 <b>Uuq</b> Unquadium	336 <b>Uuq</b> Unquadium
337 <b>Uuq</b> Unquadium	338 <b>Uuq</b> Unquadium	339 <b>Uuq</b> Unquadium	340 <b>Uuq</b> Unquadium	341 <b>Uuq</b> Unquadium	342 <b>Uuq</b> Unquadium	343 <b>Uuq</b> Unquadium	344 <b>Uuq</b> Unquadium
345 <b>Uuq</b> Unquadium	346 <b>Uuq</b> Unquadium	347 <b>Uuq</b> Unquadium	348 <b>Uuq</b> Unquadium	349 <b>Uuq</b> Unquadium	350 <b>Uuq</b> Unquadium	351 <b>Uuq</b> Unquadium	352 <b>Uuq</b> Unquadium
353 <b>Uuq</b> Unquadium	354 <b>Uuq</b> Unquadium	355 <b>Uuq</b> Unquadium	356 <b>Uuq</b> Unquadium	357 <b>Uuq</b> Unquadium	358 <b>Uuq</b> Unquadium	359 <b>Uuq</b> Unquadium	360 <b>Uuq</b> Unquadium
361 <b>Uuq</b> Unquadium	362 <b>Uuq</b> Unquadium	363 <b>Uuq</b> Unquadium	364 <b>Uuq</b> Unquadium	365 <b>Uuq</b> Unquadium	366 <b>Uuq</b> Unquadium	367 <b>Uuq</b> Unquadium	368 <b>Uuq</b> Unquadium
369 <b>Uuq</b> Unquadium	370 <b>Uuq</b> Unquadium	371 <b>Uuq</b> Unquadium	372 <b>Uuq</b> Unquadium	373 <b>Uuq</b> Unquadium	374 <b>Uuq</b> Unquadium	375 <b>Uuq</b> Unquadium	376 <b>Uuq</b> Unquadium
377 <b>Uuq</b> Unquadium	378 <b>Uuq</b> Unquadium	379 <b>Uuq</b> Unquadium	380 <b>Uuq</b> Unquadium	381 <b>Uuq</b> Unquadium	382 <b>Uuq</b> Unquadium	383 <b>Uuq</b> Unquadium	384 <b>Uuq</b> Unquadium
385 <b>Uuq</b> Unquadium	386 <b>Uuq</b> Unquadium	387 <b>Uuq</b> Unquadium	388 <b>Uuq</b> Unquadium	389 <b>Uuq</b> Unquadium	390 <b>Uuq</b> Unquadium	391 <b>Uuq</b> Unquadium	392 <b>Uuq</b> Unquadium
393 <b>Uuq</b> Unquadium	394 <b>Uuq</b> Unquadium	395 <b>Uuq</b> Unquadium	396 <b>Uuq</b> Unquadium	397 <b>Uuq</b> Unquadium	398 <b>Uuq</b> Unquadium	399 <b>Uuq</b> Unquadium	400 <b>Uuq</b> Unquadium

3-71 Lanthanoid series  
0-103 Actinoid series

a = relative atomic mass  
X = atomic symbol  
b = proton (atomic) number

The volume of one mole of any gas is 24 dm<sup>3</sup> at room temperature and pressure (r.t.p.).