CAMBRIDGE
International Education

Cambridge IGCSE™

CO-ORDINATED SCIENCES **0654/12**

Paper 1 Multiple Choice (Core) **February/March 2026**

45 minutes

You must answer on the multiple choice answer sheet.

You will need: Multiple choice answer sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

INSTRUCTIONS

- 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 multiple choice answer sheet.
- Follow the instructions on the multiple choice answer sheet.
- Write in soft pencil.
- Write your name, centre number and candidate number on the multiple choice answer sheet in the spaces provided unless this has been done for you.
- Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- You may use a calculator.
- Take the weight of 1.0 kg to be 9.8 N (acceleration of free fall = 9.8 m / s^2).

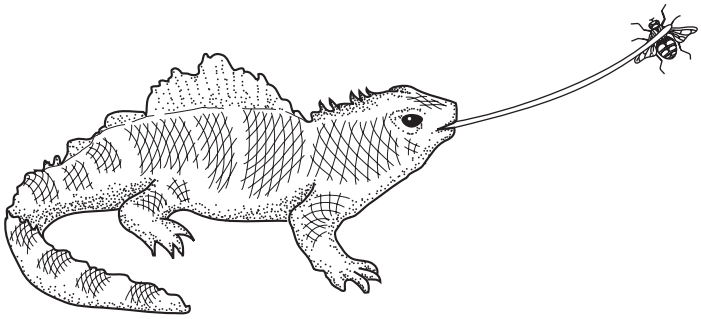
INFORMATION

- The total mark for this paper is 40.
- Each correct answer will score one mark.
- Any rough working should be done on this question paper.
- The Periodic Table is printed in the question paper.

This document has **16** pages.

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1 The diagram shows a lizard that catches an insect by extending its tongue.



Which characteristics of living organisms are shown?

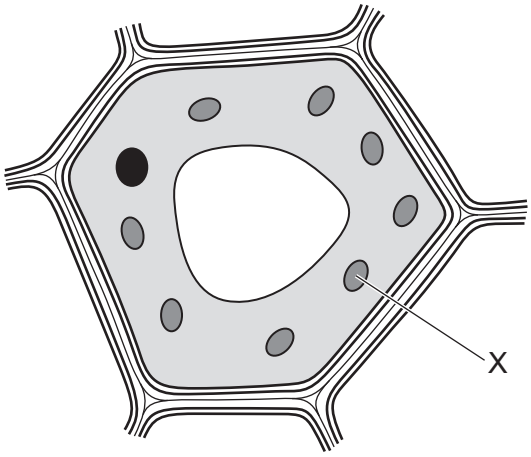
A growth and excretion

B growth and sensitivity

C movement and excretion

D movement and sensitivity

2 The diagram shows a plant cell.



What is the function of the part labelled X?

A It synthesises carbohydrates by photosynthesis.

B It synthesises carbohydrates by respiration.

C It releases energy by photosynthesis.

D It uses energy for respiration.

3 Which small molecules make up enzymes?

A amino acids

B fatty acids

C glucose

D glycerol

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4 Which dietary deficiency causes rickets?

A iron

B protein

C vitamin C

D vitamin D

5 Which row shows structures that are part of the human circulatory system?

	arteries	bronchioles	valves
A	✓	✓	✓
B	✓	✗	✓
C	✗	✓	✗
D	✗	✗	✓

6 What is a pathogen?

A a disease caused by an organism

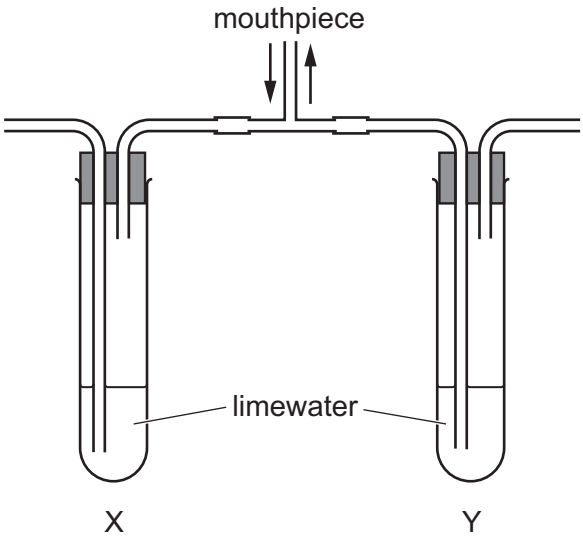
B a food item that causes a disease

C a disease caused by a drug

D an organism that causes a disease

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7 A student investigates gas exchange using the apparatus shown.



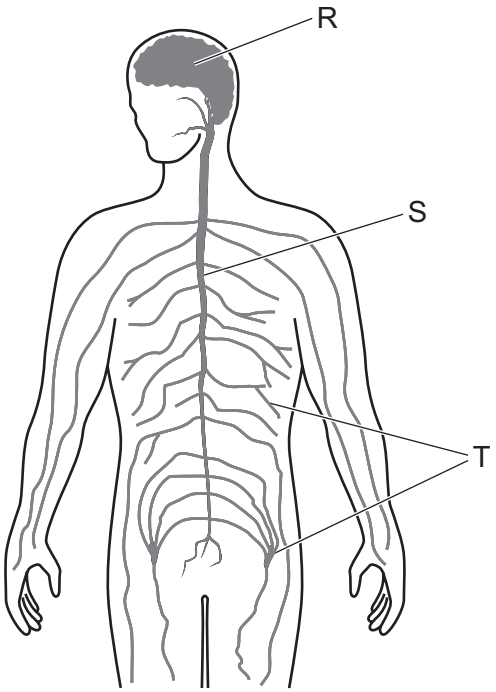
The student breathes in fresh air, then breathes in and out through the mouthpiece of the apparatus. This is repeated a few times for two minutes.

Which row shows the appearance of the limewater in X and in Y after two minutes?

	X	**Y**
A	milky	milky
B	milky	colourless
C	colourless	milky
D	colourless	colourless

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8 The diagram shows an outline of the human nervous system.



Which parts make up the central nervous system?

A R, S and T **B** R and S only **C** R only **D** S and T only

9 Three types of human disease are listed.

1 bacterial infections

2 coronary heart disease

3 viral infections

Which diseases can be treated with antibiotics?

A 1 and 3 **B** 1 only **C** 2 only **D** 3 only

10 Which row identifies some features of wind-pollinated flowers?

	anthers hanging outside petals	**feathery stigma**
A	✗	✗
B	✗	✓
C	✓	✗
D	✓	✓

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11 Which statement about human gametes is correct?

A All egg cells contain an X chromosome.

B All sperm cells contain a Y chromosome.

C All egg cells contain X and Y chromosomes.

D All sperm cells contain X and Y chromosomes.

12 Which row shows the primary source of energy for an organism?

	organism	source of energy
A	carnivores	dead plants
B	decomposers	living plants
C	green plants	sunlight
D	herbivores	animals

13 Which row shows undesirable effects of deforestation?

	flooding	number of species
A	decrease	decrease
B	decrease	increase
C	increase	decrease
D	increase	increase

14 A few drops of petrol are dropped onto the floor on one side of a room. A short time later, someone on the other side of the room smells the petrol.

What is the reason for this?

A The petrol flows over the floor to the other person.

B The petrol evaporates and then condenses.

C Petrol molecules dissolve in air molecules.

D Petrol molecules diffuse to the other side of the room.

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15 Which row describes an atom of phosphorus, $^{31}_{15}P$?

	number of electrons	number of protons	number of nucleons
A	5	15	16
B	5	16	31
C	15	15	16
D	15	15	31

16 Which row describes what happens in an endothermic reaction?

	transfer of thermal energy	temperature of the surroundings
A	to the surroundings	decreases
B	to the surroundings	increases
C	from the surroundings	decreases
D	from the surroundings	increases

17 Which changes are chemical changes?

1 the burning of magnesium

2 the melting of sulfur

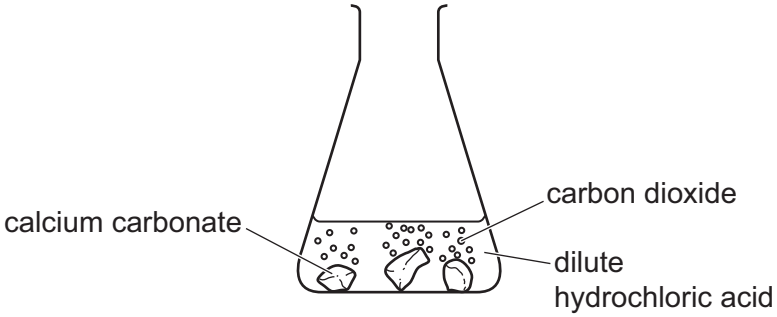
3 the rusting of iron

4 the reduction of iron(III) in iron(III) oxide

A 1, 2 and 3 **B** 1, 3 and 4 **C** 1 and 3 only **D** 2 and 4

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18 Calcium carbonate is added to dilute hydrochloric acid in a conical flask. Carbon dioxide gas is produced.



Which methods are used to investigate the rate of this reaction?

1 Connect the conical flask to a gas syringe and measure the volume of carbon dioxide collected every 15 seconds.

2 Place the apparatus on a balance and measure the mass every 15 seconds.

3 Measure the volume of hydrochloric acid in the flask every 15 seconds.

A 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only

19 Ammonia and sulfur dioxide are bubbled into separate samples of water.

What are the pH values of the resulting aqueous solutions?

	aqueous ammonia	**aqueous sulfur dioxide**
A	greater than 7	less than 7
B	greater than 7	greater than 7
C	less than 7	less than 7
D	less than 7	greater than 7

20 Which row describes the trends shown by Group I elements down the group?

	melting point	**reactivity with water**
A	decreases	increases
B	decreases	decreases
C	increases	increases
D	increases	decreases

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21 Which statement describes the element chlorine?

A It is a diatomic metal.

B It is a diatomic non-metal.

C It is a monatomic metal.

D It is a monatomic non-metal.

22 Which statement about alloys is correct?

A Brass is a compound that contains copper and zinc.

B Brass is a mixture of copper and iron.

C Stainless steel is a compound that contains iron.

D Stainless steel resists rusting.

23 Which statement about the treatment of the domestic water supply is correct?

A Sedimentation is used to remove microbes.

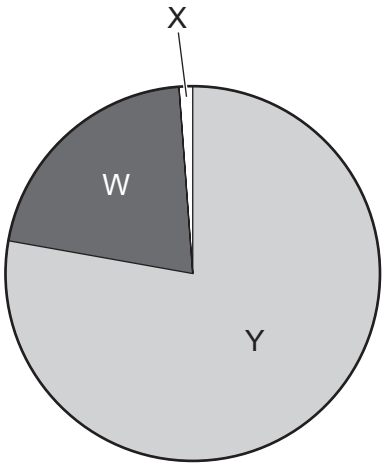
B Filtration is used to remove dissolved solids.

C Chlorination is used to kill pathogens.

D Carbon is used to change the pH.

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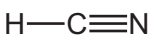
24 The pie chart shows the composition of clean, dry air.



Which row identifies W, X and Y?

	W	**X**	**Y**
A	nitrogen	other gases	oxygen
B	nitrogen	oxygen	other gases
C	oxygen	other gases	nitrogen
D	oxygen	nitrogen	other gases

25 The displayed formula of a molecule is shown.



How many covalent bonds are formed by the carbon atom in this molecule?

A 1 **B** 2 **C** 3 **D** 4

26 Which fraction obtained from petroleum is **not** used as a fuel?

A bitumen

B gas oil

C gasoline

D refinery gas

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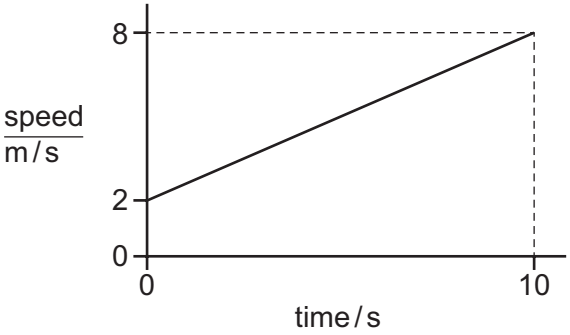
27 Ammonium chloride is mixed with aqueous sodium hydroxide and heated. A gas is produced.

The gas is tested with damp blue and damp red litmus paper.

Which row shows the observations?

	blue litmus	red litmus
A	bleached	bleached
B	turns red	unchanged
C	unchanged	turns blue
D	unchanged	unchanged

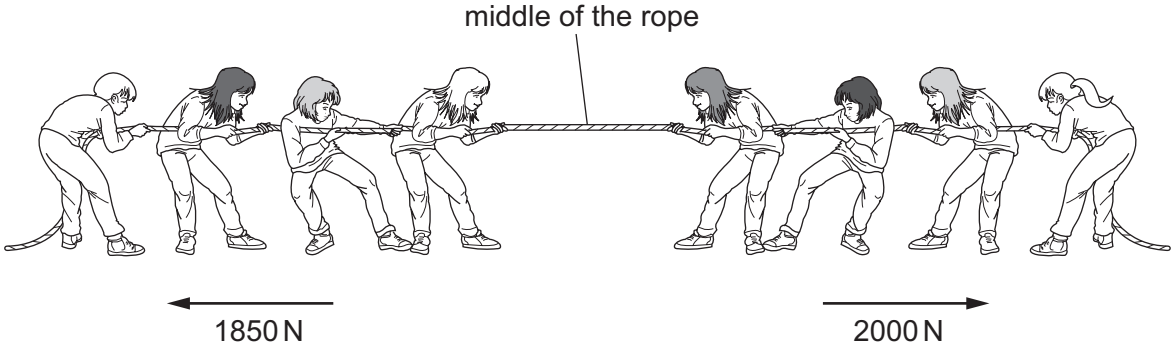
28 The graph shows how the speed of a car varies with time.



What is the distance travelled by the car?

A 30 m **B** 50 m **C** 60 m **D** 80 m

29 The diagram shows two teams pulling in opposite directions on a rope. The magnitude and direction of the force exerted on the middle of the rope by each team is also shown.



What is the resultant force on the middle of the rope?

A 150 N to the left

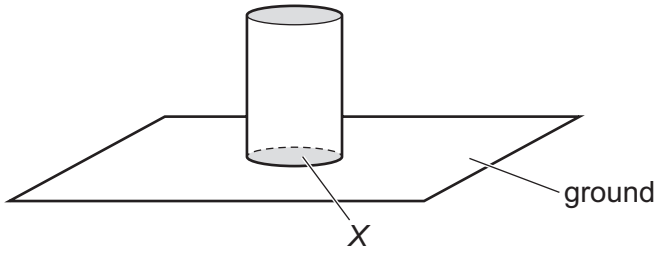
B 150 N to the right

C 3850 N to the left

D 3850 N to the right

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30 A cylinder of weight *W* and cross-sectional area *X* exerts a pressure *P* on the ground.



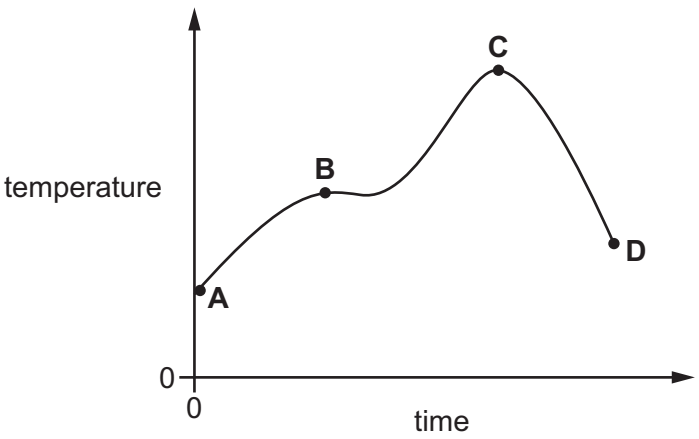
Some changes are made to *W* and to *X*.

Which row shows a situation that produces the same pressure *P* on the ground?

	W	***X***
A	doubled	doubled
B	doubled	halved
C	unchanged	doubled
D	unchanged	halved

31 The graph shows the temperature of a sample of gas as it is heated and cooled over a period of time.

At which point on the graph do the particles of the gas have maximum kinetic energy?



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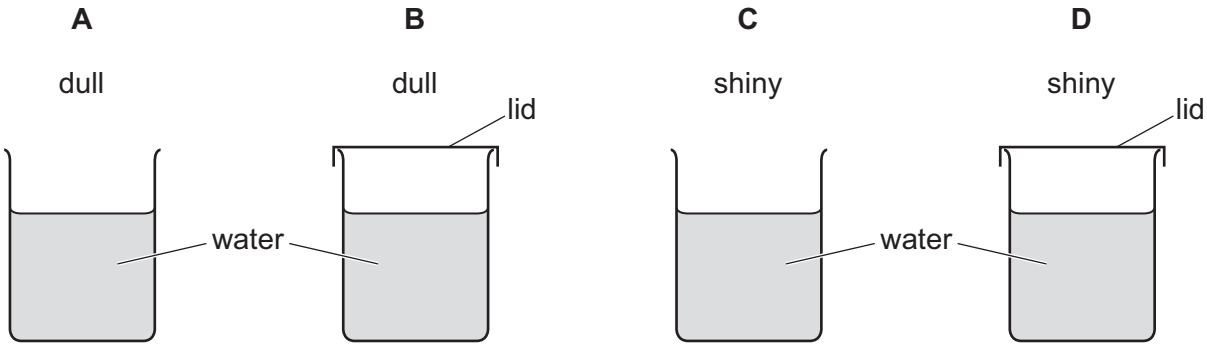
32 An equal quantity of water at 80 °C is poured into each of four identical metal containers on a laboratory bench.

The outer surfaces of two of the containers are dull and the outer surfaces of the other two containers are shiny.

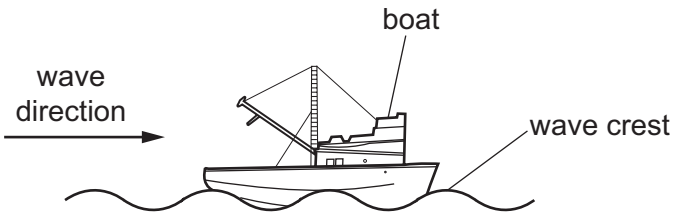
Identical lids are put on two of the containers.

All the containers are allowed to cool.

Which container cools at the greatest rate?



33 A water wave travels at a steady speed of 4.0 m / s and passes a stationary boat.



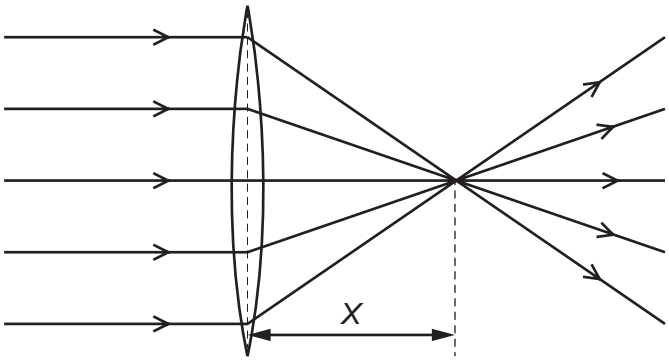
Four wave crests pass the boat every 2.0 seconds.

What is the wavelength of the wave?

A 0.5 m **B** 1.0 m **C** 2.0 m **D** 8.0 m

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34 The diagram shows light passing through a thin converging lens.



What is the distance *X*?

A the distance from the lens to an object

B the focal length of the lens

C the principal focus of the lens

D the wavelength of the light

35 Four sound waves, P, Q, R and S, have the frequencies shown.

sound wave	frequency / kHz
P	0.30
Q	3.0
R	30
S	300

Which sound waves are ultrasound waves?

A P, Q, R and S

B Q, R and S only

C R and S only

D S only

36 There is a current of 0.60 A in a 33 Ω resistor.

What is the voltage across the resistor?

A 0.018 V **B** 12 V **C** 20 V **D** 55 V

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37 There is a current I in a resistor when the voltage across the resistor is V.

How much energy is transferred in the resistor in time t?

A IVt **B** $\frac{V}{It}$ **C** $\frac{I}{Vt}$ **D** $\frac{VI}{t}$

38 What is **not** a hazard when using a mains supply?

A damaged insulation

B damp conditions

C excess current

D double-insulated outer casing

39 Which statement describes α-particles?

A They are negatively charged and strongly ionising.

B They are negatively charged and weakly ionising.

C They are positively charged and strongly ionising.

D They are positively charged and weakly ionising.

40 Which list gives the planets named in order of distance from the Sun?

A Earth, Mars, Venus, Jupiter

B Mars, Earth, Venus, Jupiter

C Venus, Earth, Jupiter, Mars

D Venus, Earth, Mars, Jupiter

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The Periodic Table of Elements

Group																	
I	II											III	IV	V	VI	VII	VIII
							1 H hydrogen 1										2 He helium 4
3 Li lithium 7	4 Be beryllium 9											5 B boron 11	6 C carbon 12	7 N nitrogen 14	8 O oxygen 16	9 F fluorine 19	10 Ne neon 20
11 Na sodium 23	12 Mg magnesium 24											13 Al aluminium 27	14 Si silicon 28	15 P phosphorus 31	16 S sulfur 32	17 Cl chlorine 35.5	18 Ar argon 40
19 K potassium 39	20 Ca calcium 40	21 Sc scandium 45	22 Ti titanium 48	23 V vanadium 51	24 Cr chromium 52	25 Mn manganese 55	26 Fe iron 56	27 Co cobalt 59	28 Ni nickel 59	29 Cu copper 64	30 Zn zinc 65	31 Ga gallium 70	32 Ge germanium 73	33 As arsenic 75	34 Se selenium 79	35 Br bromine 80	36 Kr krypton 84
37 Rb rubidium 85	38 Sr strontium 88	39 Y yttrium 89	40 Zr zirconium 91	41 Nb niobium 93	42 Mo molybdenum 96	43 Tc technetium –	44 Ru ruthenium 101	45 Rh rhodium 103	46 Pd palladium 106	47 Ag silver 108	48 Cd cadmium 112	49 In indium 115	50 Sn tin 119	51 Sb antimony 122	52 Te tellurium 128	53 I iodine 127	54 Xe xenon 131
55 Cs caesium 133	56 Ba barium 137	57–71 lanthanoids	72 Hf hafnium 178	73 Ta tantalum 181	74 W tungsten 184	75 Re rhenium 186	76 Os osmium 190	77 Ir iridium 192	78 Pt platinum 195	79 Au gold 197	80 Hg mercury 201	81 Tl thallium 204	82 Pb lead 207	83 Bi bismuth 209	84 Po polonium –	85 At astatine –	86 Rn radon –
87 Fr francium –	88 Ra radium –	89–103 actinoids	104 Rf rutherfordium –	105 Db dubnium –	106 Sg seaborgium –	107 Bh bohrium –	108 Hs hassium –	109 Mt meitnerium –	110 Ds darmstadtium –	111 Rg roentgenium –	112 Cn copernicium –	113 Nh nihonium –	114 Fl flerovium –	115 Mc moscovium –	116 Lv livermorium –	117 Ts tennessine –	118 Og oganesson –

Key

atomic number
atomic symbol
name
relative atomic mass

lanthanoids	57 La lanthanum 139	58 Ce cerium 140	59 Pr praseodymium 141	60 Nd neodymium 144	61 Pm promethium –	62 Sm samarium 150	63 Eu europium 152	64 Gd gadolinium 157	65 Tb terbium 159	66 Dy dysprosium 163	67 Ho holmium 165	68 Er erbium 167	69 Tm thulium 169	70 Yb ytterbium 173	71 Lu lutetium 175
actinoids	89 Ac actinium –	90 Th thorium 232	91 Pa protactinium 231	92 U uranium 238	93 Np neptunium –	94 Pu plutonium –	95 Am americium –	96 Cm curium –	97 Bk berkelium –	98 Cf californium –	99 Es einsteinium –	100 Fm fermium –	101 Md mendelevium –	102 No nobelium –	103 Lr lawrencium –

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