

## Matter and material: Revision of matter and classification

### Practice test and memo

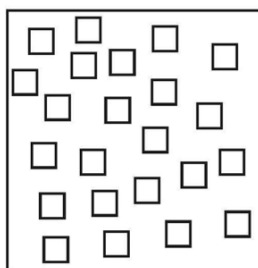
#### Practice test

Mark allocation: 30 marks

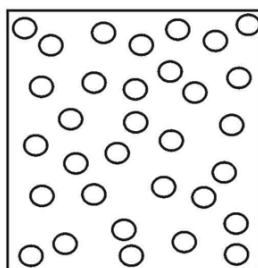
Time allocation: 30 minutes

Refer to the periodic table at the end of the test.

1. Four options are provided as possible answers to the following questions. Each question has only one correct answer. Write only the letter (A-D) next to the question number.
  - 1.1 A \_\_\_\_\_ is a mixture that is uniform where the different components of the mixture cannot be seen. (2)
    - A. Compound
    - B. Homogenous mixture
    - C. Heterogenous mixture
    - D. Pure substance
  - 1.2 Which one of the following substances is a pure substance? (2)
    - A. Steel
    - B. Tap water
    - C. Orange juice
    - D. Sulfur
  - 1.3 Air cannot be called an element because... (2)
    - A. It is a pure substance
    - B. It is made up of more than one compound
    - C. It is made up of more than one element
    - D. It is made up of a mixture of gases
  - 1.4 Which of the following does not exist as a diatomic molecule? (2)
    - A. Hydrogen
    - B. Helium
    - C. Bromine
    - D. Fluorine
  - 1.5 Which of the following becomes a better conductor of electricity as its temperature increases? (2)
    - A. Silicon
    - B. Copper
    - C. Caesium
    - D. Sulfur
2. Consider the diagrams of magnesium and sulfur given below. Draw two diagrams that show the difference between a MIXTURE of magnesium and sulfur and a COMPOUND of magnesium and sulfur. (4)



Magnesium



Sulfur



3. Identify an example of the following from the list below:

B; water in ethanol; LiOH; Fe<sub>2</sub>O<sub>3</sub>; iron filings in cooking oil; Fe; Br<sub>2</sub>

- |   |     |
|---|-----|
| 3.1 Homogeneous mixture.  | (1) |
| 3.2 Semimetal.  | (1) |
| 3.3 Compound.   | (1) |
| 3.4 Element.  | (1) |
| 3.5 Molecule.   | (1) |
| 3.6 A pure substance that exists as a liquid at room temperature. | (1) |
| 3.7 A substance that is malleable and ductile.                    | (1) |
| 3.8 A magnetic material.  | (1) |
| 4. Write the chemical formula of the following substances:        |     |
| 4.1 Potassium bromide   | (1) |
| 4.2 Carbon tetrachloride  | (1) |
| 4.3 Iodine  | (1) |
| 5. Provide the chemical names of the following substances:        |     |
| 5.1 Na <sub>2</sub> CO <sub>3</sub>                               | (1) |
| 5.2 O <sub>2</sub>  | (1) |
| 5.3 Ca(OH) <sub>2</sub>   | (1) |
| 5.4 Al <sub>2</sub> O <sub>3</sub>                                | (1) |
| 5.5 PI <sub>3</sub>   | (1) |



1 (I)	2 (II)	3	4	5	6	7	8	9	10	11	12	13 (III)	14 (IV)	15 (V)	16 (VI)	17 (VII)	18 (VIII)	
1 2,1 <b>H</b> 1																	2 <b>He</b> 4	
3 1,0 <b>Li</b> 7	4 1,5 <b>Be</b> 9												5 2,0 <b>B</b> 11	6 2,5 <b>C</b> 12	7 3,0 <b>N</b> 14	8 3,5 <b>O</b> 16	9 4,0 <b>F</b> 19	10 <b>Ne</b> 20
11 0,9 <b>Na</b> 23	12 1,2 <b>Mg</b> 24												13 1,5 <b>Al</b> 27	14 1,8 <b>Si</b> 28	15 2,1 <b>P</b> 31	16 2,5 <b>S</b> 32	17 3,0 <b>Cl</b> 35,5	18 <b>Ar</b> 40
19 0,8 <b>K</b> 39	20 1,0 <b>Ca</b> 40	21 1,3 <b>Sc</b> 45	22 1,5 <b>Ti</b> 48	23 1,5 <b>V</b> 51	24 1,5 <b>Cr</b> 52	25 1,5 <b>Mn</b> 55	26 1,8 <b>Fe</b> 56	27 1,8 <b>Co</b> 59	28 1,8 <b>Ni</b> 59	29 1,9 <b>Cu</b> 63,5	30 1,6 <b>Zn</b> 65	31 1,6 <b>Ga</b> 70	32 1,8 <b>Ge</b> 73	33 2,0 <b>As</b> 75	34 2,4 <b>Se</b> 79	35 2,8 <b>Br</b> 80	36 <b>Kr</b> 84	
37 0,8 <b>Rb</b> 86	38 1,0 <b>Sr</b> 88	39 1,2 <b>Y</b> 89	40 1,4 <b>Zr</b> 91	41 <b>Nb</b> 92	42 1,8 <b>Mo</b> 96	43 1,9 <b>Tc</b> 98	44 2,2 <b>Ru</b> 101	45 2,2 <b>Rh</b> 103	46 2,2 <b>Pd</b> 106	47 1,9 <b>Ag</b> 108	48 1,7 <b>Cd</b> 112	49 1,7 <b>In</b> 115	50 1,8 <b>Sn</b> 119	51 1,9 <b>Sb</b> 122	52 2,1 <b>Te</b> 128	53 2,5 <b>I</b> 127	54 <b>Xe</b> 131	
55 0,7 <b>Cs</b> 133	56 0,9 <b>Ba</b> 137	57 <b>La</b> 139	72 1,9 <b>Hf</b> 179	73 <b>Ta</b> 181	74 <b>W</b> 184	75 <b>Re</b> 186	76 <b>Os</b> 190	77 <b>Ir</b> 192	78 <b>Pt</b> 195	79 <b>Au</b> 197	80 <b>Hg</b> 201	81 1,8 <b>Tl</b> 204	82 1,8 <b>Pb</b> 207	83 1,9 <b>Bi</b> 209	84 2,0 <b>Po</b>	85 2,5 <b>At</b>	86 <b>Rn</b>	
87 0,7 <b>Fr</b>	88 0,9 <b>Ra</b> 226	89 <b>Ac</b>																
			58 <b>Ce</b> 140	59 <b>Pr</b> 141	60 <b>Nd</b> 144	61 <b>Pm</b>	62 <b>Sm</b> 150	63 <b>Eu</b> 152	64 <b>Gd</b> 157	65 <b>Tb</b> 159	66 <b>Dy</b> 163	67 <b>Ho</b> 165	68 <b>Er</b> 167	69 <b>Tm</b> 169	70 <b>Yb</b> 173	71 <b>Lu</b> 175		
			90 <b>Th</b> 232	91 <b>Pa</b>	92 <b>U</b> 238	93 <b>Np</b>	94 <b>Pu</b>	95 <b>Am</b>	96 <b>Cm</b>	97 <b>Bk</b>	98 <b>Cf</b>	99 <b>Es</b>	100 <b>Fm</b>	101 <b>Md</b>	102 <b>No</b>	103 <b>Lr</b>		

KEY/SLEUTEL

Atomic number  
Atoomgetal

Electronegativity  
Elektronegatiwiteit

Symbol  
Simbool

Approximate relative atomic mass  
Benaderde relatiewe atoommassa

Practice test memo

1.

1.1 B✓✓

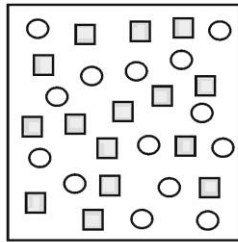
1.2 D✓✓

1.3 D✓✓

1.4 B✓✓

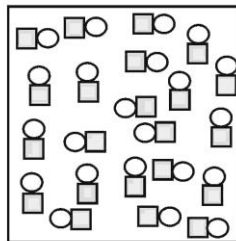
1.5 A✓✓

2. ✓✓



mixture

✓✓



compound

3.

3.1 Water in ethanol✓

3.2 B✓

3.3  $\text{Fe}_2\text{O}_3$  or  $\text{LiOH}$ ✓

3.4 B or Fe✓

3.5  $\text{Fe}_2\text{O}_3$  or  $\text{LiOH}$  or  $\text{Br}_2$ ✓

3.6  $\text{Br}_2$ ✓

3.7 Fe✓

3.8 Fe✓

4.

4.1  $\text{KBr}$ ✓

4.2  $\text{CCl}_4$ ✓

4.3  $\text{I}_2$ ✓

5.

5.1 Sodium carbonate✓

5.2 Oxygen✓

5.3 Calcium hydroxide✓

5.4 Aluminium oxide✓

5.5 Phosphorus triiodide✓