

**Question 1**

(Answer this question online.)

Question 2

Define the following terms.



(a) Atom

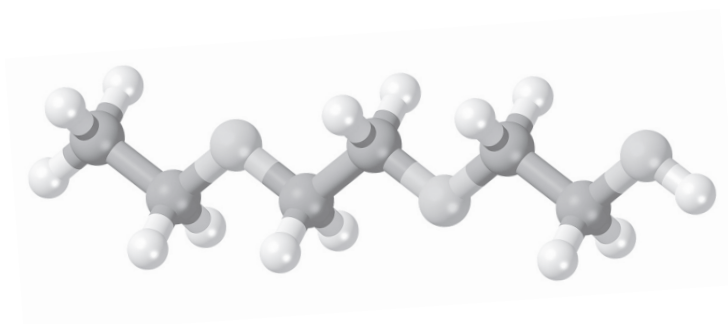
(b) Molecule

(c) Element

(d) Compound

(e) Lattice

(f) Chemical bond



**Question 3**

- (a) Give three examples of elements composed of separate, individual atoms.

- (b) Give three examples of elements composed of atoms which form molecules of two atoms.

- (c) Give two examples of elements composed of atoms which form molecules of more than two atoms.

- (d) Give two examples of elements composed of atoms which form a lattice.

Question 4

- (a) Give three examples of compounds composed of separate, individual molecules.

- (b) Give three examples of compounds with a lattice structure.

Question 5

- (a) What do the noble gases (group 18 on the periodic table) have in common in terms of the arrangement of their atoms?

- (b) What do the halogens (group 17 on the periodic table) have in common in terms of the arrangement of their atoms?

- (c) What do metals have in common in terms of the arrangement of their atoms?

**Question 6**

(Answer this question online.)

Question 7

Draw diagrams to represent the arrangement of atoms in the following elements.

(a) Nitrogen	(b) Neon	(c) Gold

Question 8

Draw diagrams to represent the arrangement of atoms in the following compounds.

(a) Carbon dioxide (CO ₂)	(b) Sodium bromide (NaBr)	(c) Silicon dioxide (SiO ₂)*

* This one is challenging. You may need to look it up.

**Extension Question 1**

Compare the melting and boiling points (and therefore states of matter) of elements and compounds composed of separate atoms and molecules with those composed of atoms in lattice structures.

Extension Question 2

Propose a reason for the differences described in your answer to Extension Question 1.

Extension Question 3

Compare the types of atoms in compounds composed of individual molecules with those composed of atoms arranged in a network. (Hint: look at the atoms in terms of them being metal, non-metal or metalloid.)

