

**DAY 3****TOPIC: ELEMENTS AND COMPOUNDS.**

Aims :

- Explain what an element is.
- Explain what a compound is.
- Differentiate between an element and a compound.

Notes:

**Elements** are substances made up of only **one type of atom**. Some elements exist as atoms and some exist as molecules. Elements cannot be broken down or chemically changed into different elements.

**Compounds** are substances made up of **two or more different elements joined together by chemical bonds**. They must therefore be made of molecules.

If we were to represent particles, using shapes, to help us understand.

| Particle | Atom or molecule | Elements or compound | Reason   |
|----------|------------------|----------------------|--|
|          | Atom             | Element              | Atom, Because it is a single (one) particle.<br>Element because it is made of only one type of atom.   |
|          | Molecule         | Element              | The two circles show that it is made up of not a single (one) particle, but it is made up of 2 particles (atoms) and the line connecting the 2 circles, shows that the 2 particles (atoms) are chemically connected together. This agrees with our definition of molecules.<br><br>All particles are circles, showing that it is made up of only one type of atom. Therefore it is an element. |
|          | Molecule         | Compound             | Molecule, because it is not a single particle (atom). It is made of 3 particles (atoms) and the particles are chemically joined together.<br><br>It is made up of two different shapes (circles and squares) showing that it is made of two different atoms. Therefore it is a compound.   |

Activity:

Study the diagrams below (diagrams 1-25). Under each diagram, indicate whether it is an atom of an element, molecule of an element or a molecule of a compound.

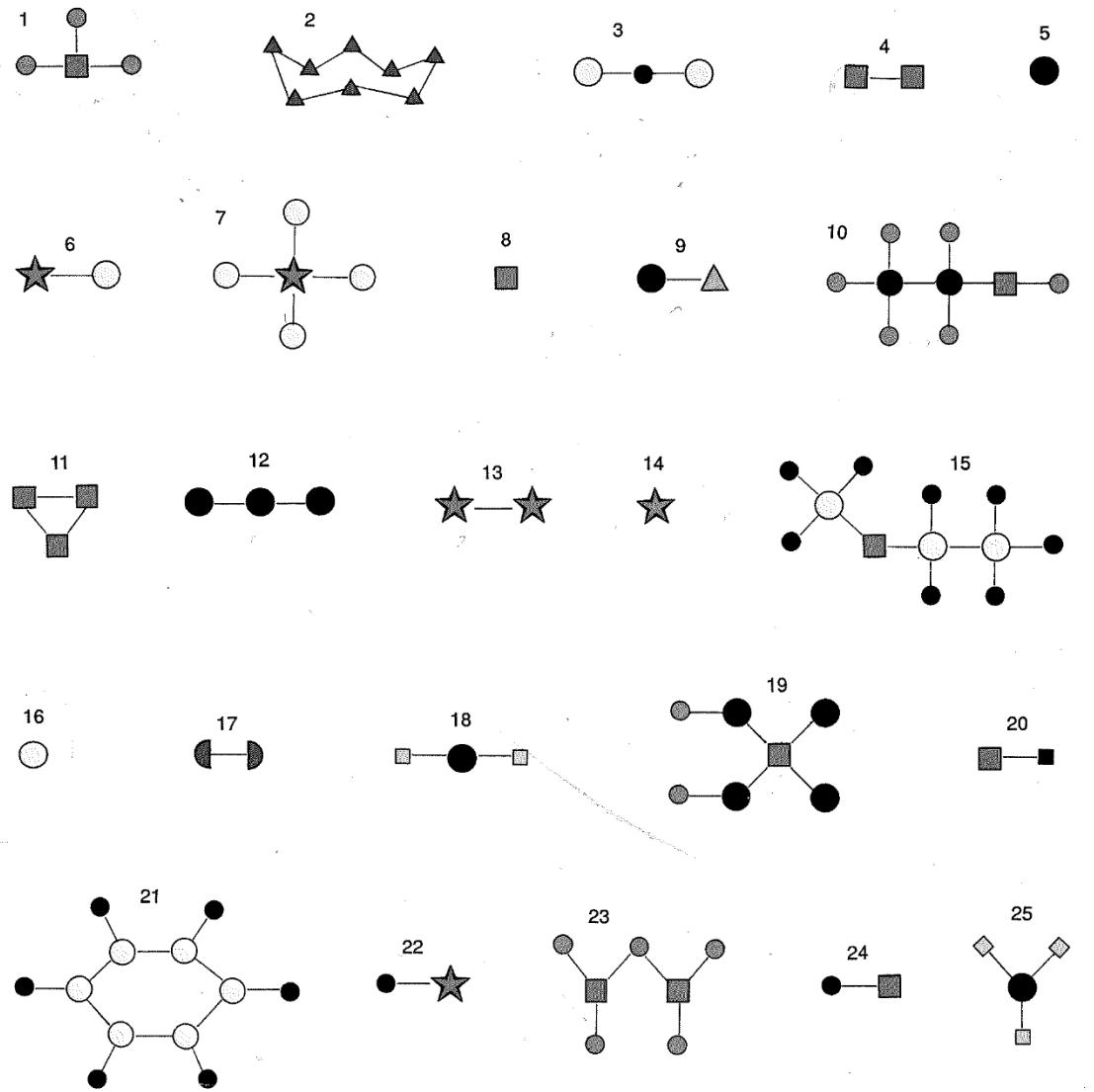


Fig 22.1 Atoms and molecules