

Challenge Yourself

1. Give an example for each of the following:

(a) A molecule containing two different types of atoms: HCl/NH₃/H₂O

(b) A molecule containing only three atoms: CO₂/SO₂

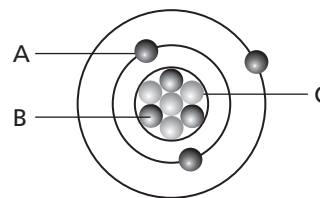
2. The diagram on the right shows a lithium atom.

(a) Identify the particles A, B and C.

A: Electron

B: Proton

C: Neutron



(b) What is the atomic number and mass number of lithium?

Lithium has an atomic number of 3 and mass number of 7.

3. What are the questions you need to ask to find out what contributes to the mass of an atom?

What is an atom made up of? What are the relative masses of each sub-atomic particle?

4. Alice observed a ball-and-stick model of a molecule of table salt (NaCl) without knowing what it was. In the model, balls of different colours represent different types of atoms and sub-atomic particles. How would Alice identify the molecule?

She should find out first what different types of atoms are in the molecule. She could identify the atoms by counting the number of protons, electrons and neutrons. Then, she should count how many atoms of each type there are in the molecule.

5. An atom has no net charge even though an electron carries a negative charge. Why is this so?

An atom contains an equal number of electrons and protons. Thus, the negative charge of the electrons is balanced out by the positive charge of the protons.