

# Worksheet 2.4

## Atomic structure

- 1 a Complete these sentences by deleting the incorrect word in each pair.

Atoms of the same element have the same number of **protons / neutrons**. The number of **protons / neutrons** in an atom is called its **proton / mass** number. The number of protons plus the number of **electrons / neutrons** in an atom gives the **atomic / nucleon** number. As an atom is neutral, the number of negative **electrons / neutrons** in an atom is always the same as the number of positive protons in the nucleus.

- b Complete the following sentences using the words below to fill the gaps.

eight      electrons      closest      energy      shells

The ..... in an atom are not free to move where they like. They can only occur at fixed distances from the nucleus in electron ..... (or ..... levels).

The first shell, ..... to the nucleus, can only take two electrons, while the second shell can take up to ..... electrons.

- 2 For each of these atoms of the following elements, give the proton number (atomic number) and the nucleon number (mass number).
- a helium (He) has 2 protons, 2 neutrons and 2 electrons .....
  - b fluorine (F) has 9 protons, 10 neutrons and 9 electrons .....
  - c iron (Fe) has 26 protons, 30 neutrons and 26 electrons .....
  - d uranium (U) has 92 protons, 140 neutrons and 92 electrons .....