Teacher Modelled Question

Copy down the answer modelled by your teacher.

A lithium atom can be shown as

mass number = ∑ no. of protons + the no. of neutrons

$^{7}_{3}Li$

no of electrons = no. of protons — atomic number

p, n, e = electronic structure

What can be deduced from this information about the structure of a lithium atom and the position of lithium in the Periodic Table? (6 marks)

period – rows – no. of occupied shells — 2 no. = period 2

group / column — the number of electrons in the outer shell.

3e – 2, 1 — group 1

3p

4n

The atomic number of Lithium is 3. This means there are 3 electrons and 3 protons in a lithium atom. The mass number of lithium is 7. This is the number of protons and neutrons added together. Therefore a lithium atom has 4 neutrons. The electronic structure of Lithium is 2, 1. As there is one electron in the outer shell, this means lithium is in group 1. As there are 2 numbers, this means there are 2 occupied shells of electrons. This means lithium is in period 2.