CLASSWORK: ATOMIC STRUCTURE & ISOTOPES

1 What is the nucleon number (mass number) of a nuclide?

A the number of neutrons

B the number of protons

C the number of neutrons and protons

D the number of protons and electrons

2 A nuclide is represented by $^{35}_{17}Cl$.

How many neutrons and protons does each nucleus contain?

	neutrons	protons
A	18	35
B	18	17
C	17	35
D	17	18

3 In a sulphur nucleus there are 16 positively charged particles and 18 neutral particles.

Which are its proton and nucleon numbers?

	proton number	nucleon number
A	16	18
B	16	34
C	18	16
D	18	34

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4 The most common isotope of phosphorus has the symbol $^{31}_{15}P$.

(a) How many protons and neutrons are there in one atom of this isotope?

number of protons .....

number of neutrons ..... [2]

(b) What is the difference between this isotope and the other isotopes of phosphorus?

.....

.....[1]

(c) Complete Fig. 2.1 to show the electronic structure of $^{31}_{15}P$. [2]

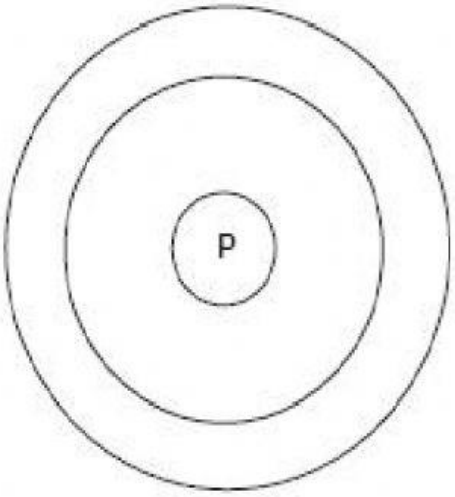


Fig. 2.1

(d) Name another element that has the same number of outer shell electrons as phosphorus.

.....[1]

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