

Atomic structure (2.1 The Atom)

Name:.....

Date:.....

1. Identify the following subatomic particles.

- a. The particle that has a much lower mass than the others.....
- b. The particle that has no electrical charge.....
- c. The particle that is not found in the nucleus.....
- d. The number of these in the nucleus is equal to the atomic number.....
- e. The particle that is gained or lost when ions are formed.....

2. Boron has atomic number 5. It comprises two isotopes, one with five neutrons, the other with six.

- a. Define the term "isotope".

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- b. Calculate the mass numbers of the two isotopes.

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- c. In naturally occurring boron, 20% of the atoms contain five neutrons and 80% six neutrons. Calculate the relative atomic mass of boron.

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3. Complete the following table:

Species	Proton	neutron	Electron
X^{4+}	22	26	
	13	14	10
${}^3H^{-}$			
${}^{24}Mg^{+}$			