## **Basic Atomic Structure**

| Name : |  |  |  |  |  |  |  |  |  |  |  | _ |  |  |  | _ |
|--------|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|---|
|--------|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|---|

1 Name the three particles of the atom and their respective charges.

| Particle | Charge type | Charge |  |  |  |
|----------|-------------|--------|--|--|--|
|          |             |        |  |  |  |
|          |             |        |  |  |  |
|          |             |        |  |  |  |

| 2 | The number of protons in one atom of an element determines the atom's |   |  |  |  |
|---|---|---|--|--|--|
|   | and the number of   | _ determines the charge of th                             | e element.                                     |  |  |
| 3 | The tells y also tells you the number of                              | ou the number of protons in o                             | one atom of an element. It<br>of that element. |  |  |
| 4 | No two different elements wi  | ll have the atomic r                                      | number.  |  |  |
| 5 | The of an ele   | ment is the average mass of a taking into account the mas |  |  |  |
| 6 | The of an ele<br>the nucleus of the atom.                             | ment is the total number of p                             | orotons and in                                 |  |  |
| 7 | Give the symbol and the num   | nber of protons in one atom o                             | f  |  |  |
|   | Lithium   | Bromine   | Iron   |  |  |
|   | Copper  | Oxygen  | Mercury  |  |  |
|   | Krypton   | Helium  |  |  |  |
| 8 | Give the symbol and the num   | nber of electrons in one atom                             | of   |  |  |
|   | Uranium   | Carbon  | Boron  |  |  |
|   | Fluorine  | Chlorine  | Europium                                       |  |  |
|   | Barium  | Bismuth   |  |  |  |

## **Basic Atomic Structure**

## **Answers**

1 Name the three particles of the atom and their respective charges.

| Particle | Charge type | Charge |  |  |  |
|----------|-------------|--------|--|--|--|
| Proton   | Positive    | +1     |  |  |  |
| Neutron  | Neutral     | 0      |  |  |  |
| Electron | Negative    | -1     |  |  |  |

2 The number of protons in one atom of an element determines the atom's <u>identity</u> and the number of <u>electrons</u> determines the charge of the element.

3 The <u>atomic number</u> tells you the number of protons in one atom of an element. It also tells you the number of <u>electrons</u> in a neutral atom of that element.

[4] No two different elements will have the same atomic number.

5 The <u>atomic mass</u> of an element is the average mass of an element's naturally occurring atom or <u>isotopes</u> taking into account the mass of each isotope.

6 The <u>mass number</u> of an element is the total number of protons and <u>neutrons</u> in the nucleus of the atom.

[7] Give the symbol and the number of protons in one atom of

Lithium <u>Li 3</u>

Bromine Br 35

Iron Fe 26

Copper Cu 29

Oxygen O 8

Mercury Hg 80

Krypton Kr 36

Helium He 2

8 Give the symbol and the number of electrons in one atom of

Uranium Ur 92

Carbon C 6

Boron B 3

Fluorine F 9

Chlorine Cl 17

Europium Eu 63

Barium Ba 56

Bismuth Bi 83