

## 1 Choose from the words below to complete the sentences:

atoms electrons negative positive gain lose

a. An ion is an atom or group of \_\_\_\_\_ with a \_\_\_\_\_ or negative charge.

B Metal atoms \_\_\_\_\_ electrons to form positive ions.

C Non-metal atoms \_\_\_\_\_ electrons to form \_\_\_\_\_ ions.

## 2 Complete the table to show what happens when atoms form ions – the first one has been done for you.

| Atom | Electronic configuration | Group number | Metal or non-metal? | Electrons lost or gained? | How many electrons? | Ion             |
|------|--------------------------|--------------|---------------------|---------------------------|---------------------|-----------------|
| Li   | 2.1                      | 1            | metal               | lost                      | 1                   | Li <sup>+</sup> |
| Na   | 2.8.1                    |              |                     |                           |                     |                 |
| K    | 2.8.8.1                  |              |                     |                           |                     |                 |
| Mg   | 2.8.2                    |              |                     |                           |                     |                 |
| Ca   | 2.8.8.2                  |              |                     |                           |                     |                 |
| O    | 2.6                      |              |                     |                           |                     |                 |
| S    | 2.8.6                    |              |                     |                           |                     |                 |
| F    | 2.7                      |              |                     |                           |                     |                 |
| Cl   | 2.8.7                    |              |                     |                           |                     |                 |

## 3 Look at your completed table.

a. What is the link between the group number and the number of charges on positively charged ions?

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b. What is the link between the group number and the number of charges on negatively charged ions?