

Use with textbook pages 168–180.

The atom and the subatomic particles

1. Use the following vocabulary words to label the diagram.

Vocabulary	
common ion charge	symbol
other ion charge	atomic number
name	average atomic mass

(a) atomic number _____

(b) symbol _____

(c) name _____

(d) average atomic mass _____

(e) common ion charge _____

(f) other ion charge _____

22	4+
Ti	3+
Titanium	
47.9	

2. Examine the periodic table for the element below and complete the blanks.

35	—
Br	
Bromine	
79.9	

(a) atomic number 35

(b) average atomic mass 79.9 (NOT 80!)

(c) ion charge -1

(d) number of protons 35

(e) name of element Bromine

(f) number of neutrons 45

3. Complete the following table for the different atoms and ions. The first two rows have been completed to help you.

Element Name	Atomic Number	Ion Charge	Number of Protons	Number of Electrons	Number of Neutrons
potassium	19	1+	19	18	20
phosphorus	15	0	15	15	16
<u>lithium</u>	3	0	<u>3</u>	<u>3</u>	<u>4</u>
<u>calcium</u>	<u>20</u>	2+	20	<u>18</u>	<u>20</u>
nitrogen	<u>7</u>	3-	<u>7</u>	<u>10</u>	<u>7</u>
<u>boron</u>	5	0	<u>5</u>	<u>5</u>	<u>6</u>
argon	<u>18</u>	0	<u>18</u>	18	<u>22</u>
<u>aluminium</u>	13	<u>3+</u>	<u>13</u>	10	<u>14</u>
chlorine	<u>17</u>	0	<u>17</u>	<u>17</u>	<u>19</u>
<u>sodium</u>	<u>11</u>	<u>1+</u>	11	10	<u>12</u>