EL5

CHECK YOUR KNOWLEDGE AND UNDERSTANDING (PART 2)

This activity helps you check your knowledge and understanding of the topics that you have covered in Chemical Storylines EL3 to EL5.

Introduction

The checklist below covers the key points in **Chemical Storylines EL3** to **EL5**.

The statements listed correspond to learning outcomes in the specification for the AS examinations. They are listed in the order in which they occur in this module. Remember that you will be coming back to many of the ideas in later modules.

You will probably have made summary notes of the main ideas that you have met. Now is a good time to make sure that your notes cover all the points you need. If you feel that you are not yet able to meet the requirements of all of the statements in the list, you should look again at the areas concerned, seek help from your teacher if necessary and develop your notes accordingly.

Most of the points are covered in **Chemical Ideas**, with supporting information in **Chemical Storylines** or the activities. However, if the main source of information is in a storyline or an activity this is indicated.

What you do

Read and think about each of the statements in the checklist. Put a tick in the column that best represents your current ability to do what is described:

A – I am confident that I can do this
B – I need help to clarify my ideas on this
C – I am not yet able to do this.

You will be sharing this information with your teacher so that you can work together to improve your understanding.

At the end of Chemical Storylines EL3 to EL5 you should be able to:	A	B	C
• explain and use the terms atomic number, mass number, isotope, Avogadro constant, relative isotopic mass, relative atomic mass, relative formula mass and relative molecular mass			
• use the concept of amount of substance to perform calculations involving masses of substances, empirical and molecular formulae and percentage composition			
• write and interpret balanced chemical equations, including state symbols			
• describe and explain the main stages in the operation of a time-of-flight mass spectrometer			
• use data from a mass spectrometer to: – calculate relative atomic mass and the relative abundance of isotopes – work out the relative molecular mass of molecules • understand that other peaks are caused by fragments of molecules			
• recall that the Periodic Table lists elements in order of atomic (proton) number and groups elements together according to their common properties • use given information to describe trends in a group of the Periodic Table and to make predictions concerning the properties of an element in this group • describe periodic trends in the properties of elements, in terms of melting temperature and boiling temperature **Activity 4.3**			
• recall that the position of an element in the Periodic Table is related to its electron structure (main energy levels or electron shells) and vice versa			
• describe and compare the following properties of the elements and compounds of Mg, Ca, Sr and Ba in Group 2: – reactions of the elements with water – acid–base character of the oxides and hydroxides – thermal stability of the carbonates – solubilities of hydroxides and carbonates **Activity 4.1**			
• understand how Mendeleev developed the Periodic Table by leaving gaps and rearranging some elements from their atomic mass order and how subsequent research validated this knowledge • given relevant information, discuss other examples of how scientific research can be used to assess the validity of a discovery **Chemical Storylines EL4**			

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