TOPIC 2.12:	**Atoms** (Learning outcomes by syllabus reference: first part OC39)
HOW MANY LESSONS?	1 – 2 lessons

KEYWORDS / TERMS TO BE TAUGHT			
Atom	Element	Compound	Molecule
Positive	Negative	Orbit	Proton
Neutron	Electron	Neutral	a.m.u.

KEY CONCEPTS IN THE LESSON (OBJECTIVES)		
*What students **must** know or be able to do*	*What students **should** know or be able to do*	*What students **could** know or be able to do*
To be able to locate protons, neutrons and electrons on a diagram of an atom	To be able to draw the structure of the atom	To be able to describe the structure of the atom

SEQUENCE OF LESSON
1. Introduce the concept of atoms. Allow students to relate personal knowledge of atoms (e.g. atomic bomb). This could be facilitated by using the *Atoms Introduction* PowerPoint and encouraging student input during the presentation. 2. Discuss key vocabulary. 3. Review – whole class discussion. Possibility of using the *What am I?* activity in the *Classroom Activities* section of this resource pack, to facilitate student understanding. 4. Further class work/homework – see *Atoms Worksheet*.

1. DIFFERENTIATE BY CONTENT (In what ways can I vary the content of what I am teaching?)		
(A) Complexity of content: (concrete, symbolic, abstract)		
Concrete	*Symbolic*	*Abstract*

Real materials associated with elements (e.g. copper, iron, gold, silver etc)	Diagrams of atoms	Mass, charge and location of sub-atomic particles
(B) Variety of resources		
As listed above.		
(C) Variety of learning environments		
Classroom, school laboratory, computer room		

2. DIFFERENTIATE BY PROCESS (How will I teach the lesson?)
Sequence of lesson as laid out above ➢ Introduction – using concrete or symbolic material, or a general class discussion ➢ Divide class into groups. Assist students to complete the worksheet as required. ➢ Possible use of *What am I?* activity to facilitate discussion.

3. DIFFERENTIATE BY OUTCOME / PRODUCT **(How will the student demonstrate understanding?)**

See *Worksheets*, *Classroom Activities* and *Experiments* sections of this resource pack.

- Students may draw a diagram of an atom in their copies.
- Whole class review work completed at end of class
- Homework: *Atoms Worksheet* if not used for class work. Specify time to be allocated to this work at home.

FINALLY - ANY OTHER POSSIBILITIES FOR THIS LESSON?

- Common elements in everyday life
- Collage of scenes showing elements and the atoms that make them up
- Role play using students as individual sub-atomic particles
- Extension exercise: How do atoms become chemically combined to form a compound?
- Internet search for material on atoms
- Suggested Internet links include **www.juniorscience.ie**, www.bbc.co.uk/schools, **www.scoilnet.ie**, **www.skoool.ie** and **http://classroom.jc-schools.net/sci-units/matter.htm**
- For advice on enhancing curricular access through the use of mobile ICT, see **www.laptopsinitiative.ie**