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|---|---|
| **TOPIC 2.8:** | **Elements** (Learning outcomes by syllabus reference: OC5, OC6, OC7, OC8, OC9) |
| **HOW MANY LESSONS?** | 2 – 3 lessons |

| **KEYWORDS / TERMS TO BE TAUGHT** | | | |
|---|---|---|---|
| Atom | Element | Properties | Conduct*(ivity)* |
| Carbon | Sulfur | Aluminium | Copper |
| Zinc | Hydrogen | Nitrogen | |

| **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 identify everyday uses for metals | To be able to recall that metals conduct electricity and heat<br>To be able to recall the symbols for common metals and non-metals | To be able to list the properties of a range of metals and non-metals |

| **SEQUENCE OF LESSON** |
|---|
| 1. Introduce the concept of elements. Allow students to relate personal experiences of elements. This could be facilitated by using the *Elements Introduction* PowerPoint, or the Periodic Table in their textbook, and encouraging student input.<br>2. Discuss key vocabulary and definitions.<br>3. Review – whole class discussion. Possibility of using a co-operative group activity (see *Cooperative Group Activity Sheet* in the *Classroom Activities* section of this resource pack) to facilitate student understanding<br>4. Further class work/homework – see *Elements 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, carbon, gold, silver etc.) | Symbols for elements | Location of elements on Periodic Table |
| *(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<br>➢ Introduction – using concrete material or a general class discussion<br>➢ Explore concepts in textbook, using *Elements Introduction* PowerPoint or the Periodic Table.<br>➢ Possible use of a co-operative group activity (see the *Classroom Activities* section of this resource pack) to facilitate discussion |

| **3. DIFFERENTIATE BY OUTCOME / PRODUCT**<br>**(How will the student demonstrate understanding?)** |
|---|

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

- Students may label elements (concrete objects) with their name and symbol.
- Offer students a choice of learning activities. Students may design a poster on Elements, draw their own Periodic Table (containing only the elements that they must learn) or create a resource page for teaching other students about elements and their properties.
- Whole class review work completed at end of class
- Homework: *Elements 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 their uses
- Role play using students as elements
- Other written activities, e.g. a list of properties for common metals and non-metals
- Extension exercise: How many elements exist?
- Internet search for material on elements
- Suggested Internet links include www.bbc.co.uk/schools, **www.juniorscience.ie**, **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**