

TOPIC 2.1:	Safety
HOW MANY LESSONS?	3 – 4 lessons

KEYWORDS / TERMS TO BE TAUGHT			
Harmful	Irritant	Flammable	Corrosive
Toxic	Oxidising	Hazard	Substance
Risk	Hazard Symbol	Chemical	Reaction

KEY CONCEPTS IN THE LESSON (OBJECTIVES)		
<i>What students must know or be able to do</i>	<i>What students should know or be able to do</i>	<i>What students could know or be able to do</i>
To be able to identify safety symbols To be able to identify safety hazards in the lab To be able to identify safety rules	To be able to identify hazards particular to themselves and others in the lab	To be able to apply safety issues to new situations and environments, e.g. other specialist classrooms

SEQUENCE OF LESSON
1. Introduce the concept of safety. Allow students to relate personal experiences of safety. This could be facilitated by using the <i>Safety</i> PowerPoint and encouraging student input during the presentation. 2. Carry out experimental activities in groups with a focus on safety. Discussion of key vocabulary, risks and safety rules. 3. Review – whole class discussion. Possibility of using <i>Safety Quiz</i> PowerPoint to facilitate student understanding 4. Further class work/ homework – see <i>Safety Contract</i> (which can be augmented with visual cues) and the <i>Safety Worksheet</i> .

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

Real materials associated with hazards (e.g. acid in a beaker) and safety (e.g. safety glasses, hair ribbon, fire blanket, lab coat/apron)	Hazard symbols	Why do we have safety rules? Appreciation of the importance of safety in our daily lives and in the science lab
<i>(B) Variety of resources</i>		
As listed above. Also potential use of first aid resources for further exploration of material related to safety		
<i>(C) Variety of learning environments</i>		
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
- Teacher may demonstrate use of apparatus to the class, emphasising safety. For resources, guidance and support related to facilitating student experiments and investigations, see www.juniorscience.ie
- Closely observe students as they perform the activities individually or in pairs.
- Possible use of *Safety Quiz* PowerPoint to facilitate discussion. Differentiated questioning can be used in accordance with the needs and abilities of different students.
- Students sign *Safety Contract*, which can also be signed by parents. Insert pictures/symbols on Safety Contract to assist students who require additional support in literacy skills.

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 hazard symbols in their copies.
- Whole class review work completed at end of class.
- Homework: *Safety Worksheet* if not used for class work. Specify time to be allocated to this work at home. Differentiate this worksheet further if required for individual students.

FINALLY - ANY OTHER POSSIBILITIES FOR THIS LESSON?

- Explore students' learning preferences using the *What I like doing!* worksheet contained in the *Classroom Activities* section of this resource pack. These worksheets have a reading age of about 7.5 years so they are suitable for a broad range of students. It is also useful to read *Ways of Learning* and *Readability* located in the *Toolkit* section of this folder.
- Modelling various hazards through role play and then dealing with them safely
- Compiling a collage of scenes showing unsafe practice
- Other written activities e.g. a log of the different types of safety hazards in the school
- Extension exercise: A world without safety rules: Could we survive?
- Cross-curricular links: Art, Craft & Design, Home Economics, Technology
- For advice on enhancing curricular access through the use of mobile ICT, see www.laptopsinitiative.ie