

# Safety Module Learning Plan

This basic learning plan suggests the following flow of learning: identifying hazards in a workshop > developing learning objectives > identifying ways to minimise or eliminate risks > risk assessment > developing workshop safety rules > learning safety signs > working safely > thinking about safety and incorporating safety into designs > testing and applying knowledge and understanding.

Order	Activity	Teaching Method	Resources	Related exercises
1	<p><b>Identifying Workshop Hazards</b></p> <p>Lead in: before lesson teacher sets up examples of workshop hazards, chuck left in drilling machine chuck, rubbish around or on machines, clutter, bottled labelled poison etc.</p> <p>Teacher asks students to identify hazards in workshop.</p>	<p>Teacher questions students about what they see and elicits hazards and risks to health and safety.</p> <p>Teacher elicits ways of reducing or eliminating risks to health and safety.</p>	<p>Teacher supplied examples of workshop hazards.</p> <p>Drilling machine hazards HTML / PDF</p>	<p>Students complete Identifying Hazards HTML and/or PDF.</p> <p>Follow-on activity:</p> <p>Drilling machine hazards HTML / PDF</p>
2	<p><b>Learning Objectives</b></p> <p>Students learn what they should be learning about safety and risk assessment.</p> <p>Teacher tells students of statutory duty to keep them safe and to teach safety in D&amp;T.</p>	<p>Teacher questions students and elicits learning objectives; writes objectives on board.</p>	<p>Learning Objectives HTML</p> <p>Learning Objectives PDF</p>	<p>Students write their own learning objectives and add to examples in Learning Objectives HTML / PDF</p>
3	<p><b>Risk Assessment</b></p> <p>Identifying hazards and ways to reduce or eliminate risks to health and safety.</p>	<p>Teacher identifies hazardous situations and elicits ways of reducing or eliminating risks; elicits level of risk.</p>	<p>Risk Assessment Exercises HTML / PDF</p>	<p>Students work on the risk assessment exercises HTML / PDF</p>
4	<p><b>Workshop Safety Rules</b></p> <p>Based on students' risk assessments, students develop workshop safety rules</p>	<p>Teacher asks students to identify workshop hazards and elicits rules to reduce or eliminate risks to health and safety.</p>	<p>Workshop safety rules HTML / PDF</p> <p>Identifying the hazards HTML / PDF</p>	<p>Students write their own rules and add them to Workshop safety rules HTML / PDF.</p> <p>Complete Identify the hazards HTML / PDF worksheet.</p>

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5	<p><b>Safety Signs</b></p> <p>Students learn the common workshop safety signs.</p>	Teacher elicits that we all need to be reminded or informed about safety rules for equipment, situations and behaviour and that signs are one method that this can be done.	<p>Safety signs flash cards HTML / PDF</p> <p>Hazard warning signs HTML / PDF worksheet.</p>	<p>Students work in pairs and learn safety signs by studying them then testing each other.</p> <p>Students draw the signs listed in Hazard warning signs HTML / PDF</p>
6	<p><b>Safety in D&amp;T</b></p> <p>Issue students "Safety in Design and Technology" PDF. Show HTML version on interactive whiteboard.</p> <p>Discuss "Introduction" and "Designer's Safety Responsibility", and implications of bad design on people's safety.</p>	Teacher elicits ways that designs can be hazardous, e.g. toys, electrical equipment, containers.	<p>Safety in Design and Technology HTML on whiteboard</p> <p>Safety in Design and Technology PDF</p>	Students develop rules for designers to ensure that their designs are safe.
7	<p><b>Personal Protective Equipment</b></p> <p>Students identify risks to H&amp;S and ways that PPE could minimise or eliminate the risks.</p>	Teacher reminds students of risk assessment and elicits ways that PPE could minimise or eliminate the risks.	Safety in Design and Technology HTML on whiteboard # PPE	Students watch PPE animation and make a list of PPE requirements for a variety of situations, e.g. examples in the PPE animation.
8	<p><b>Tools and Materials Safety</b></p> <p>Read and discuss "Safe Materials" + "Safe Storage of Materials" ,+ "Safe Storage of Tools" + "Tool Safety" + "Safety Features on Tools" section of "Safety in Design and Technology".</p>	Teacher elicits that tools and materials must be safe to you and must be stored safely.	<p>Safety in Design and Technology HTML on whiteboard</p> <p>Safety in Design and Technology PDF</p>	<p>Students watch "Examples of safety features on tools" animation.</p> <p>Students complete:</p> <p>Material safety HTML / PDF</p>
9	<p><b>Product Safety</b></p> <p>Read and discuss the "Product Safety" section of "Safety in Design and Technology".</p>	Teacher and students discuss "General safety requirement" and "Other obligations of producers" and compare requirements to products that leach harmful chemicals.	<p>Safety in Design and Technology HTML on whiteboard + PDF</p> <p>Polymers leaching chemicals HTML / PDF</p>	<p>Read Polymers leaching chemicals HTML / PDF</p> <p>Identify and record products that may contain harmful chemicals.</p>

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10	<p><b>Follow-on and fill-in exercises</b></p> <p>Students work on exercises that test their knowledge and understanding.</p>	<p>Teacher uses the resources for homeworks and fill-in exercises.</p> <p>Students work through the exercises and develop and test their knowledge and understanding.</p>	<p>Emergency stop buttons HTML / PDF</p> <p>Damage tolerance HTML / PDF</p> <p>Factor of safety HTML / PDF</p> <p>Loads HTML / PDF</p> <p>Forces HTML / PDF</p> <p>Safety procedure for:</p> <ul style="list-style-type: none"> <li>• centre lathe HTML / PDF</li> <li>• fret saws HTML / PDF,</li> <li>• sanders HTML / PDF,</li> <li>• wood turning HTML / PDF.</li> </ul>	<p>Learning how to switch off the power in the workshop in an emergency and mapping the position of the emergency stop buttons.</p> <p>Learning about forces and damage tolerance.</p> <p>Learning about "factor of safety".</p> <p>Learning about loads and forcers.</p> <p>Recording safety procedures for tools and activities.</p>