

SCIENCE AND TECHNOLOGY: Technology and Design

The minimum content is set out below

<i>Developing pupils' Knowledge, Understanding and Skills</i>	<i>(Objective 1) Developing pupils as Individuals</i>	<i>(Objective 2) Developing pupils as Contributors to Society</i>	<i>(Objective 3) Developing pupils as Contributors to the Economy and the Environment</i>
<p>Pupils should have opportunities through the contexts opposite, to develop creative thinking and problem solving skills through:</p> <p>Design – identifying problems; investigating, generating, developing, modelling and evaluating design proposals; giving consideration to form, function and safety;</p> <p>Communication – use of free-hand sketching and formal drawing techniques and ICT tools (including 3D modelling);</p> <p>Manufacturing – selecting and using materials fit for purpose; safe use of a range of tools and processes appropriate to materials, demonstrating accuracy and quality of outcome;</p> <p>Control – incorporate control systems, such as mechanical, electronic or computer-based, in</p>	<p>Pupils should have opportunities to:</p> <p>Respond to a personal design challenge in relation to their own lifestyle. Personal Understanding</p> <p>Abide by health and safety rules when using tools, machines and equipment. Personal Health</p> <p>Opportunities must also be provided to explore issues related to: Mutual Understanding Moral Character Spiritual Awareness</p>	<p>Pupils should have opportunities to:</p> <p>Explore technical inventions and designs that have met a social need cost-effectively.</p> <p>Design cost effective and appropriate solutions to meet the specific needs of diverse local and global groups. Citizenship</p> <p>Explore how developments in Technology and Design have changed the way we can access the media. Media Awareness</p> <p>Opportunities must also be provided to explore issues related to: Cultural Understanding Ethical Awareness</p>	<p>Pupils should have opportunities to:</p> <p>Investigate how the skills developed through Technology and Design will be useful to a wide range of careers. Employability</p> <p>Pursue design solutions using environmental friendly materials and energy sources.</p> <p>Identify product needs and pursue sustainable harmonious design solutions in a local outdoor/indoor context. Education for Sustainable Development</p> <p>Opportunities must also be provided to explore issues related to: Economic Awareness</p>

<p>products and understand how these can be employed to achieve desired effects.</p>			
<p>Learning Outcomes</p> <p>The learning outcomes require the demonstration of skills and application of knowledge and understanding of Technology and Design.</p> <p>Pupils should be able to:</p>	<ul style="list-style-type: none"> • demonstrate practical skills in the safe use of a range of tools, machines and equipment; • research and manage information effectively to investigate design issues, using Mathematics and ICT where appropriate; • show deeper understanding by thinking critically and flexibly, solving problems and making informed decisions, using Mathematics and ICT where appropriate; • demonstrate creativity and initiative when developing ideas and following them through; • work effectively with others; • demonstrate self management by working systematically, persisting with tasks, evaluating and improving own performance; • communicate effectively in oral, visual (including graphic), written, mathematical and ICT formats showing clear awareness of audience and purpose. 		