

Design and Technology Curriculum 2014-15

One of the main thrusts of the new curriculum is the idea that much of children’s design and technology activity should be based upon innovative problem solving and the manufacture of products that respond to the needs of a given user.

Possible projects for 2014 /15 linked to whole school themes: teachers to select	Key stage	<u>Progression of skills in Designing</u>	<u>Progression of skills in Making</u>
<p><u>Greece</u> Can you make a healthy flat bread snack or salad? Can you make an ancient Greek sandal for a man or woman? Mazes/ children’s game based on topic theme Greek musical instruments Investigate Ancient Greek technology (e.g, wheelbarrow [levers generally], aquaduct, truss roof [strengthening with triangles], lighthouses, cranes and pulleys, hydraulics etc) Boats (Archimedes principal) – can you make a boat to hold a given weight and make it move?</p>	<p>KS1 Years 1 & 2</p>	<p>Understanding context, users and purpose:</p> <ul style="list-style-type: none"> • Work within a range of contexts (eg: imaginary, story, home, school, the environment, local community, industry etc) • State what products they are designing and making. • Say whether their products are for themselves or others. • Describe what their products are for. • Say how their products will work. • Say how they will make the product suitable for their intended users. • Use simple design criteria to help develop their ideas. <p>Generating, developing, modelling and communicating ideas</p> <ul style="list-style-type: none"> • Generate ideas by drawing on their own experiences. • Use knowledge of existing products to come up with ideas. • Develop and communicate ideas by talking and drawing. • Model ideas by exploring materials, components, and construction kits by making templates and mock-ups. • Use ICT to develop and communicate ideas. 	<p>Planning / Practical skills and techniques:</p> <ul style="list-style-type: none"> • <i>Plan by suggesting what to do next.</i> • Follow safety and hygiene procedures • Select and use a range of tools and equipment (including kits), <i>explaining their choices</i> • Select from and use a range of materials and components according to their characteristics • Measure, mark out, cut and shape materials and components • Assemble and join materials • Use finishing techniques including those from art.

<p><u>Journeys through space</u> Solar system mobiles Can you make a moon buggy to cross a particular terrain? Textile work on Space theme – cushion/bag/logo design Design a meal. What do astronauts eat? Make a frame structure to support a rocket.</p> <p><u>In a foreign land</u> Make a photo frame Ethnic clothing for a figure, a bag, etc Food preparation / packaging for food Can you build a bridge structure from these materials to hold a given weight? Make a package to transport a fragile item. Make a sunshade / umbrella.</p>	<p>Lower KS2 Years 3 & 4</p>	<p>Understanding context, users and purpose:</p> <ul style="list-style-type: none"> • Work confidently within a range of contexts. • Describe the purpose of their product. • Explain design features that will appeal to users. • Explain how particular parts of their product work. • Gather information about the needs and wants of particular individuals and groups. • Develop their own design criteria and use them to inform their ideas. <p>Generating, developing, modelling and communicating ideas</p> <ul style="list-style-type: none"> • Share and clarify ideas through discussion. • Model their ideas through prototypes and pattern pieces. • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas. • Use CAD to develop and communicate their ideas. • Generate realistic ideas based on the needs of the user. • <i>Make design decisions, taking account of the availability of resources.</i> 	<p>Planning / Practical skills and techniques:</p> <ul style="list-style-type: none"> • <i>Order the main stages of making</i> • <i>Explain choices in relation to the skills and techniques used</i> • Follow procedures for safety and hygiene • Select and use tools and equipment suitable to the task <i>and explain their choices</i> • Select from and use a wider range of materials and components suitable to the task • Measure, mark out, cut and shape materials and components with some accuracy. • Apply finishing techniques including those from art with some accuracy. • Explain their choices according to functional properties and/or aesthetic qualities •
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<p>Upper KS2 Years 5 & 6</p>	<p>Understanding context, users and purpose:</p> <ul style="list-style-type: none"> • Work confidently within a range of contexts. • Describe the purpose of their product. • Explain design features that will appeal to users. • Explain how particular parts of their product work. • Carry out research using surveys, interviews, questionnaires and web based resources. • Identify the needs, wants and preferences and values of particular individuals and groups. • <i>Develop a simple design specification to guide their thinking.</i> <p>Generating, developing, modelling and communicating ideas.</p> <ul style="list-style-type: none"> • Share and clarify ideas through discussion. • Model their ideas through prototypes and pattern pieces. • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas. • Use CAD to develop and communicate their ideas. • Generate innovative ideas, drawing on research. • <i>Make design decisions, taking account of constraints such as time, resources and cost.</i> 	<p>Planning / Practical skills and techniques:</p> <ul style="list-style-type: none"> • <i>Produce appropriate lists of tools, equipment and materials they need</i> • <i>Formulate step by step plans as a guide to making</i> • Work with accuracy throughout making process • Demonstrate resourcefulness when tackling problems. • <i>Use techniques that involve a number of steps.</i>
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