

Design and Technology Curriculum at Soudley School

'Respect for Ourselves, Each Other and The Environment'

Key Drivers

Our Forest, Communication, Knowledge and Understanding of the World

KS1 Long Term Plan

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KS2 Long Term Plan

[KS2%20Long%20Term%20Rolling%20Programme%20Soudley%20.pdf \(website-editor.net\)](#)



Design and technology is an inspiring and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. At Soudley School, we make every effort to address the needs of all children and so the activities presented will feature differentiation, extension and will be suitably modified and/or supported for those with SEND

We want our pupils to have experienced the concepts of and developed their abilities within:

1. CREATIVITY: Levels of originality and the willingness to take on creative risks to produce innovative ideas and prototypes.
2. INDEPENDENCE: An excellent attitude to learning and independent working.
3. EFFICIENCY/PRODUCTIVITY: The ability to use time efficiently and work constructively and productively with others.
4. RESPONSIBILITY: The ability to act as responsible designers and makers, working ethically and using finite materials carefully.
5. EQUIPMENT AND MATERIALS: An appropriate knowledge of which tools, equipment and materials to use to make their products.
6. KNOWLEDGE: The ability to apply relevant mathematical/scientific knowledge and to develop effective D&T specific knowledge
7. SAFETY: The ability to manage risks well to manufacture products safely and hygienically.
8. DESIGN PROCESS: The ability to carry out relevant research (including taking inspiration from design throughout history, similar object handling, prototype making or disassembly of products showing initiative and asking questions to develop a suitable knowledge of users' needs), design, make,(including skills practice), evaluate and improve.

And to have worked on these types of technologies:

- Master practical skills: FOOD
- Master practical skills: MATERIALS (Resistant) AND CONSTRUCTING
- Master practical skills: TEXTILES
- Master practical skills: ELECTRICALS AND ELECTRONICS
- Master practical skills: MECHANICS

Early Years	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2	
 <p data-bbox="360 177 2157 213">Our school wide curriculum design allows all pupils to explore their world from a personal, local and global perspective</p> 				
1-8	<p data-bbox="159 341 2190 368">Designing and Working Technologically: see end of Key Stage 2 statements 1-8 above to direct approaches for learning activities so that the following strands are supported and developed:</p> <p data-bbox="174 379 2175 480">CREATIVITY, INDEPENDENCE, EFFICIENCY/PRODUCTIVITY, USERS' NEEDS, RESPONSIBILITY, EQUIPMENT AND MATERIALS, KNOWLEDGE, SAFETY, DESIGN PROCESS</p>			
	<ul data-bbox="147 496 546 1182" style="list-style-type: none"> • Produce pictures (could be simply labeled) of what their product will be like or was like (depending on maturity and readiness) • Make products with direct support and modeling • Explore objects, observing key elements that have been highlighted by adult • Express any likes and dislikes or other observations about the colours, materials or overall look • Look at modeled examples of products and observe one being made <p data-bbox="138 1262 551 1398">Questioning ... begin to ask/answer closed questions about what they observe. Adult modeling. Where is? ... What is? ...</p> <p data-bbox="138 1437 533 1533">What is the join like? Do you like the colour? What colour will you use for your X?</p>	<ul data-bbox="584 496 965 951" style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created. <p data-bbox="584 999 920 1134">Questioning ... 5 w's – what, who, where, when, why? Moving toward some more open questions...</p> <p data-bbox="584 1182 954 1318">What is the join like and where have you seen one like it before? Why are we using this type of join?</p>	<ul data-bbox="1001 496 1413 1174" style="list-style-type: none"> • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs. • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work. <p data-bbox="1001 1214 1402 1318">Questioning ... what would, where would, when would, why would, how would?</p> <p data-bbox="1001 1358 1397 1461">What would make your join more effective? How would you join these materials next time?</p>	<ul data-bbox="1451 496 2204 991" style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience. <p data-bbox="1451 1031 2145 1102">Questioning ... what might, where might, when might, why might, how might?</p> <p data-bbox="1451 1142 2186 1206">What might be the best type of join to use here? Why might it be the most effective?</p>

Vocabulary/Language: Language used in one age group should progressively build on the language used in previous year groups

This list is an indicator of the sort of terms used and when they are suitable to introduce. This by means definitive and may be added to as our curriculum develops further. The language/vocabulary of other subjects such as maths, science or art should be applied when discussing relevant elements of the D&T curriculum. In addition, some language is completely cross curricular and used in many contexts such as ruler, scale, larger, smaller, inside, through, fix, finish, fasten etc...

Early Years	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
Appearance Apron Artstraws Decoration Design Equipment Glue Machine Model Paints Product Technology Texture	Adhesive Annotated diagram Artefact Components Computer control Design process Dismantle Engineering Evaluation Final design Flexible Glue gun Landscape Masking tape Mock up Mould Mouldable material Net Parts list Plan Portrait PVA Questionnaire Research Sketch Stable Style System Template Tessellations Three- dimensional Two-dimensional	Acrylic Aesthetics Cross-section Client/Customer survey Design brief Design proposal Disassembly Graphics Modify Performance Primary source Prototype Secondary source Set square Structure	Exploded drawing Goggles Market research Product analysis Proportion Synthetic
Clay Play dough	Plasticine Thumb pot	Coil pot Malleable	Glaze Slab pot
Card Fold Hole punch Joint Paper Paper clip	Axle Balsa Bolt Cutting mat Dowel Drill File G clamp Hammer Hardboard Hinge Junior hacksaw Lever Mechanism Nail Nut Risk assessment Sandpaper Saw Scoring Screw Screwdriver Wheel	Aluminium Beam Timber Bradawl Brittle Chassis Cog Corriflute Emery cloth Fibreboard Framework Gear Fulcrum Hardwood Hydraulics Jinks' corner Linkage MDF Pincers Pivot Pliers Plywood Pneumatics Rigid Shaft Softwood Spanner Specification Washer	Cam Coping saw Crank Effort Ergonomics Jig saw Perspex Pulley Rotary Soldering Spacer Tenon saw Winch
Cotton Hessian Needles	Binca Dye Mark out Pattern Running stitch Textile Thimble Tablecloth Tie and dye Fibres Stencil	Appliqué Batik Tension Calico Cross- stitch Loom Weaving	Back-stitch Blanket stitch Polycotton Quilting Seam allowance Tacking stitch
Bake Baking sheet Basin Boil Can opener Chopping board Dishcloth Healthy eating Hygienic Ingredient Mixing bowl Pan Pastry cutters Recipe Taste test Wooden spoon	Beat Grater Grill Measuring jug Simmer Spatula	Knead	Baste

Assessment at Soudley School

Our curriculum is knowledge based and designed to have an impact on long term memory. See long, medium, short term plans and knowledge mats regarding curriculum content and coverage. The following outlines the progress expected within the subject and helps to provide progression throughout the school in our mixed age classes.

Due to the impact of Covid, teachers assess children at the beginning of units of work and track back through the colours when necessary, to fill gaps and ensure sound understanding before moving on.

	Rainbow reference	DESIGN AND DEVELOP Children can:	MAKING Children can:	PRODUCT AND EVALUATION Children can:
Pre-school	White	Begin to follow an adult's design	Make simple models with adult support	Be excited about what they have made
Reception	Red	Talk about what they want to make Follow an example	Make simple models	Talk about what they like and about what they have created
Year One	Orange	Generate ideas from their own experience Talk about their ideas and say what will be done Describe what they want to do using pictures and words Make lists of materials they will need	Know the features of some familiar products Join two materials together, often with glue Use scissors or a knife to cut, sometimes with help Make simple models, not necessarily with a purpose Use simple construction kits – e.g. Lego Know about basic hygiene and safety	Recognise the characteristics of familiar products Know how some moving objects work Use simple terms to talk about their own and others' work Identify materials and mechanisms in familiar products Know the benefits of fruit and vegetables
Year Two	Yellow	Generate ideas, and plan what to do next, using their experience of materials and components Use their knowledge of some working characteristics of materials when designing Use wheels, slides and levers in plans Use plans to show how to put their ideas into practice Say how the product will be useful to the user Draw pictures with labels, with some text	Begin to select tools for folding, joining, rolling Measure out and cut fabric Use a simple template for cutting out Practise skills before using them Use simple finishing techniques Select tools and techniques appropriate to the job Follow basic safety rules Understand and use the terms ingredient and component Use simple scales or balances Understand main rules of food hygiene	Talk about how moving objects work Describe how a commercial product works Use like and dislike when evaluating or describing Explain why some products are useful Use digital photography to present design or finished work Recognise what they have done well and talk about what could be improved Seek out the views and judgements of others Predict how changes will improve the finished product
Year Three	Green	Use others to help generate their ideas Use what they know about the properties of materials	Measure and cut out using centimetres and weigh in grams	Be clear about their ideas when asked Can alter and adapt original plans following discussion and evaluation

		<p>Plan their work to include a range of joins</p> <p>Ensure that plans are realistic and appropriate for the aim</p> <p>Show the order of working in plans</p> <p>Use models, pictures and words in designs</p> <p>Make increasing use of ICT to plan ideas</p> <p>Recognise that designs must meet a range of needs</p> <p>Say why something will be useful</p> <p>Apply what they know about mechanisms to create movement when planning and designing</p> <p>Investigate a range of products to see how they work</p>	<p>Choose tools and equipment which are appropriate for the job</p> <p>Prepare for work by assembling components together before joining</p> <p>Use scoring and folding for precision</p> <p>Make holes using a punch and drill</p> <p>Work out how to make models stronger</p> <p>Alter and adapt materials to make them stronger</p> <p>Combine a number of components together in different ways</p> <p>Make the finished product neat and tidy</p> <p>Begin to select their own ingredients when cooking or baking</p> <p>Make good presentation of food</p>	<p>Recognise what has gone well, but suggest further improvements for the finished article</p> <p>Suggest which elements they would do better in the future</p> <p>Identify where evaluation has led to improvements</p> <p>Understand safe food storage</p>
Year Four	Blue	<p>Collect and use information to generate ideas</p> <p>Consider the way the product will be used</p> <p>Understand designs must meet a range of criteria and constraints</p> <p>Take users' views into account</p> <p>Understand how some properties can be used – e.g. waterproof</p> <p>Think ahead about the order of their work</p> <p>Add electricity to create motion or make light</p> <p>Produce step by step plans</p> <p>Make ongoing sketches and annotations</p>	<p>Increasingly model their ideas before making</p> <p>Measure accurately to centimetres and grams</p> <p>Combine materials for strength and to improve how the product looks</p> <p>Use permanent and temporary fastenings to join</p> <p>Join with a greater range of techniques – e.g. staples</p> <p>Strengthen joints and corners in a variety of ways</p> <p>Understand how wheels, axles, turning mechanisms, hinges and levers all work together</p>	<p>Talk about what they like and dislike, giving reasons</p> <p>Develop their designs through their own reflection and the evaluation of others</p> <p>Carry out tests before making improvements</p> <p>Evaluate food by taste, texture, flavour etc</p>
Year Five	Indigo	<p>Make more complex designs to include belts and pulleys, and a combination of other mechanisms</p> <p>Plan the order of work by thinking ahead</p> <p>Use sketches to show other ways of doing things – and then make choices</p> <p>Meet an identified need – e.g. a meal for an older person – by selecting ingredients or materials</p> <p>Use various sources of information and draw on them in design</p>	<p>Carry out tests to see if their design works</p> <p>Make improvements from design suggestions</p> <p>Work in a safe and hygienic way</p> <p>Measure and cut precisely to millimetres</p> <p>Make stable and strong joints to stand the test of time</p> <p>Use proportions when cooking, by doubling and halving recipes</p>	<p>Identify what is working well and what might be improved – and make choices from several alternatives</p> <p>Refine the quality of the finished product, including making annotations on the design</p> <p>Clarify ideas through drawing and modelling</p> <p>Increasingly use testing to improve models and finished products</p>

Year Six	Violet	<p>Keep cost constraints in mind when selecting materials in design</p> <p>Use their knowledge of –e.g.- science and art when designing</p> <p>Be aware of commercial aspects and incorporate these into their designs</p> <p>Design including hydraulics and pneumatics when where appropriate</p> <p>Draw scaled diagrams with increasing use of ratio</p> <p>Calculate the amount of materials needed use this to estimate cost</p>	<p>Measure and cut out in precise detail, and make sure that finished products are carefully finished</p> <p>Make separate elements of a model before combining into the finished article</p> <p>Understand how an article might be mass produced</p> <p>Produce a simple instruction manual or handbook for their product</p>	<p>Research products using the internet</p> <p>Test and evaluate commercial products, understanding how this information supports their own designs</p> <p>Evaluate a range of different sources of information such as advertising and handbooks</p>
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