St Agnes Academy

Progression of Skills – Design Technology

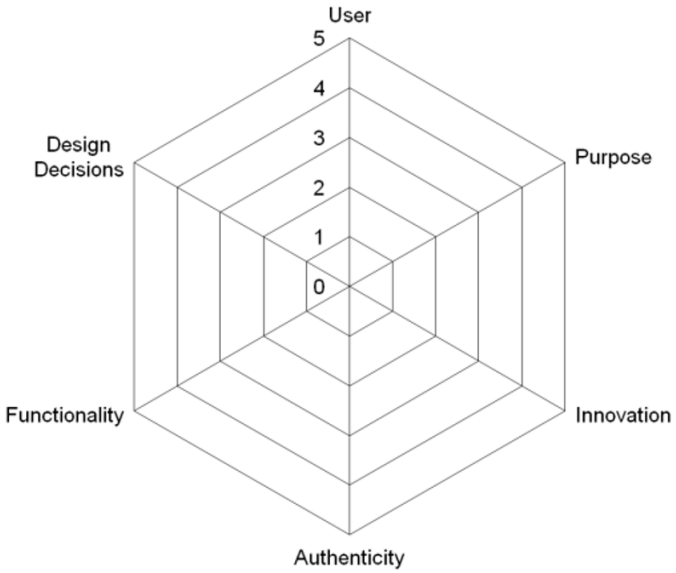
		EYFS	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
Designing	**Understanding context, users and purpose**	To begin to • learn to construct with a purpose in mind. • work within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for	• work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for • say how their products will work • say how they will make their products suitable for their intended users • use simple design criteria to help develop their ideas	Throughout KS2 pupils should: • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work In early KS2 pupils should **also**: • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas	In late KS2 pupils should **also**: • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups *• develop a simple design specification to guide their thinking*
	Generating, developing, modelling and communicating ideas	• Learn about planning and how to come up with an idea but try to make it even better. • Be able to talk about what they will make and how. Begin to: • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing	• generate ideas by drawing on their own experiences • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mock- ups • use information and communication technology, where appropriate, to develop and communicate their ideas	Throughout KS2 pupils should: • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas • In early KS2 pupils should **also**: • generate realistic ideas, focusing on the needs of the user *• make design decisions that take account of the availability of resources*	In late KS2 pupils should **also**: • generate innovative ideas, drawing on research *• make design decisions, taking account of constraints such as time, resources and cost*

Making	**Planning**	• begin to use the language of designing and making for example join, build, shape. • learn about planning and how to come up with an idea but try to make it even better. • be able to talk about what they will make and how.	*• plan by suggesting what to do next* • select from a range of tools and equipment, *explaining their choices* • select from a range of materials and components according to their characteristics	Throughout KS2 pupils should: • select tools and equipment suitable for the task *• explain their choice of tools and equipment in relation to the skills and techniques they will be using* • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities In early KS2 pupils should **also**: *• order the main stages of making*	In late KS2 pupils should **also**: *• produce appropriate lists of tools, equipment and materials that they need* *• formulate step-by-step plans as a guide to making*
	Practical Skill and Techniques	• select tools and techniques needed to shape, assemble and join materials. • use tools carefully and safely with purpose. • try junk modelling as a way of experimenting with construction with freedom. • explore materials when making, show freedom of experimenting. • To begin to understand some of the tools, techniques and processes involved in food preparation. • Develop fine motor skills, cutting/chopping.	• follow procedures for safety and hygiene • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design	Throughout KS2 pupils should: • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components In early KS2 pupils should **also**: • • measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with some accuracy	In late KS2 pupils should **also**: • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design *• use techniques that involve a number of steps* • demonstrate resourcefulness when tackling practical problems
Evaluating	**Own ideas and products**	Begin to • talk about changes made during the making process. What went well or not so well and why that may have been. • develop critical thinking • talk about their design ideas and what they are making • make simple judgements about their products and	• talk about their design ideas and what they are making • make simple judgements about their products and ideas against design criteria *• suggest how their products could be improved*	Throughout KS2 pupils should: • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • In early KS2 pupils should **also**: • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products	In late KS2 pupils should **also**: • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make *• evaluate their ideas and products against their original design specification*

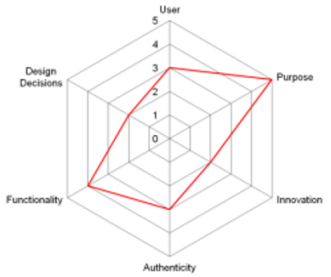
		ideas against design criteria			
	Existing products	Begin to discuss: • what they like and dislike about products • what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products might be made from	• what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products	Across KS2 pupils should investigate and analyse: • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants In early KS2 pupils should **also** investigate and analyse: • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused	In late KS2 pupils should **also** investigate and analyse: • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose
Technical Knowledge	**Making products work**	• Start to learn how to use a range of tools including scissors, stapler, hole punch, rolling pins, pastry cutters. • Learn how everyday objects work by dismantling them and investigating as a class. • Children to have basic hygiene awareness.	See subject specific skills	Across KS2 pupils should know: • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities *• that materials can be combined and mixed to create more useful characteristics* *• the correct technical vocabulary for the projects they are undertaking*	See previous
Individuals	**Inventors, designers, engineers, chefs, manufacturers, milestones**	Not a requirement in EYFS	Not a requirement in KS1	Across KS2 pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products	See previous

When planning and teaching projects ensure that the highlighted skills are specifically taught highlighting progression from previous units

As well as incorporating these skills projects must, to a greater or lesser extent, hit all of the DT principles which fall under the DT definition of 'Something for Somebody with Some purpose. Assessment of this should be made using the DT principles star diagram which is broken down as follows:



Example



- User – who the products are for
- Purpose – what tasks the products will perform
- Functionality – how the products will work
- Design Decisions – the opportunities children have to make choices
- Innovation – the scope children have to be original with their thinking
- Authenticity – how believable/real the products will be to the children

A balance of 'principle focus' should be seen spanning the three projects completed in each year