



Grazeley Primary School DT Knowledge and Skills Progression

		EFYS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DESIGN	EVALUATE EXISTING PRODUCTS	Making links and noticing patterns in their experience Showing curiosity about objects, events and people Using senses to explore the world around them	Begin to explore existing products: What they are for, how they work, materials used. Say what they like or dislike about the products.	Understand that what products are for, how they work and the materials used are important to consider when designing.	Begin to evaluate how well products have been made and start to investigate construction techniques.	Understand how well products have been designed, made, what materials have been used and the construction technique.	Begin to consider a range of existing products, making comparisons.	Investigate and analyse a range of existing products.
	Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground -breaking products.							
	PURPOSE + CREATE SC	Participate in small group and 1-1, offering their own ideas using recently introduced vocabulary Offer explanations for why things might happen	Know the purpose of their product - who and what it's for and use this information to inform their design criteria.	Identify the purpose of their product – who and what it's for and use this information to inform their design criteria.	Start to consider the views of others, including intended users, when creating design criteria.	Consider the views of others, including intended users, when creating design criteria.	Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose. Include this when generating their design criteria.	Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose. Include this when generating their design criteria.

	IDEAS	Think of ideas and find ways to solve problems	Begin to develop their design ideas through discussion and modelling. Explain what they are going to do.	Develop their design ideas through discussion, observation and modelling, giving clear explanations about what they are going to do.	Start to generate, develop and model their ideas through discussion, annotated sketches and prototypes.	Confidently develop and model their ideas through discussion, annotated sketches and prototypes.	Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.	Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces, computer-aided design.
		Find new ways to do things						
	PLANNING	Begin to show accuracy and care when drawing	Communicate their ideas through drawings and templates.	Communicate their ideas through drawings and labelling parts. Make templates and mock ups of their ideas in card and paper or using ICT.	Communicate their ideas using more detailed drawings, understanding the importance of labelling.	Confidently communicate their ideas using labelled drawings from different views showing specific features.	Start learning how to draw up a specification for their design.	Draw up a specification for their design
		Hold a pencil effectively using the tripod grip						
		Checking how well their activities are going	Identify what they will need to make their product from a given selection of resources.	Identify what they will need to make their product.	When planning explain their choice of materials and components.	When planning explain their choice of materials and components according to function and aesthetic.	Within a given structure, plan the order of their work, choosing appropriate materials, tools and techniques.	Plan the order of their work, choosing appropriate materials, tools and techniques.
		Changing strategy as needed						
		Reviewing how well the approach worked						

MAKE	Tools and Techniques	Use a range of small tools including scissors, paintbrushes and cutlery	Select tools and materials from a given selection of resources to make products using appropriate techniques.	Select tools and materials to make products using appropriate techniques. Use correct vocabulary to name and describe them.	Select a wider range of tools and techniques for making their product safely. Explain their choice of tools and equipment.	Select a wider range of tools and techniques for making their product safely. Explain their choice of tools and equipment in relation to the skills and techniques they will be using.	Select appropriate materials, tools, components and techniques for making their product. Demonstrate skills in using different tools and equipment safely and accurately with growing confidence.	Confidently select appropriate materials, tools, components and techniques and use them safely. Assemble components to make working models.
	Measurement	Use a range of small tools including scissors, paintbrushes and cutlery	With help measure, mark out, cut and shape a range of materials.	With help measure, mark out, cut and shape a range of materials with some accuracy.	Measure, mark out, cut and score with increased accuracy.	Measure, mark out, cut and shape a range of materials, using appropriate techniques.	Confidently measure, mark out and shape a wide range of materials with accuracy.	Confidently measure, mark out and shape a wide range of materials with accuracy.
	Assembly	<p>Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function</p> <p>Checking how well their activities are going</p> <p>Changing strategy as needed</p> <p>Reviewing how well the approach worked</p>	Use simple joins to assemble and combine materials to make products.	Use simple joins to assemble and combine materials to make products, following their design.	Assemble, join and combine materials in order to make a product, following their design and making adaptations to improve if necessary.	Start to use temporary joins as part of the construction process. Then assemble, join and combine materials accurately in permanent ways.	Use joining and combining techniques to make component parts, then assemble components to make final product.	Confidently make component parts, then assemble components to make final product. Demonstrate their modifications as they go along.

	Finishing	Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function	Begin to use simple finishing techniques to improve the appearance of their product.	Use simple finishing techniques to improve the appearance of their product.	Begin to use appropriate finishing techniques to strengthen and improve the appearance of their product.	Start to choose from a selection of appropriate finishing techniques to strengthen and improve the appearance of their product.	With growing confidence apply a range of finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.	Accurately apply a range of finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. Aim to make a quality product.
EVALUATE	During Construction	Make comments about what they have heard and ask questions to clarify their understanding Checking how well their activities are going Changing strategy as needed Reviewing how well the approach worked	Begin to talk about their design ideas and what they are making.	Talk about their design ideas and what they are making.	Begin to refer to their design criteria as the design and make.	Refer to their design criteria as they design and make.	Begin to evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.	Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.

	On Completion	Share their creations, explaining the process they have used	Make simple judgements about their ideas and products against the design criteria. Begin to suggest how their products could be improved.	Make simple judgements about their ideas and products against their design criteria. Suggest how their products could be improved.	Start to evaluate their products against original design criteria. Consider strengths and areas for development.	Evaluate their products against original design criteria. Begin to carry out appropriate tests to identify strengths and areas for development.	Begin to critically evaluate their products against the original design criteria. Carry out appropriate tests to identify strengths and areas for development.	Critically evaluate their ideas and products, identifying strengths and areas for development, and carrying out appropriate tests.
TECHNICAL KNOWLEDGE	Sewing	Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function	Know that a 3-D textiles product can be assembled from two identical fabric shapes.		Know that a single fabric shape can be used to make a 3D textiles product.		Know that a 3D textiles product can be made from a combination of fabric shapes.	
	Building Structures	Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function	Know how freestanding structures can be made stronger, stiffer and more stable.		Know how to make strong, stiff shell structures.		Know how to reinforce and strengthen a 3D framework.	
	Mechanical Systems	Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function	Know about the movement of simple mechanisms such as levers, sliders, wheels and axles.		Know how mechanical systems such as levers and linkages or pneumatic systems create movement. Know that mechanical systems have an input, process and output.		Know how mechanical systems such as cams or pulleys or gears create movement. Know that mechanical systems have an input, process and output.	

	Electronics	Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function		Know how simple electrical circuits and components can be used to create functional products. Know that electrical systems have an input, process and output.	Know how more complex electrical circuits and components can be used to create functional products. Know that electrical systems have an input, process and output.
	Computing	Safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function		Know how to program a computer to control their products.	Know how to program a computer to monitor changes in the environment and control their products.
	Cooking and Nutrition	Understanding the importance of healthy food choices	Know that food ingredients should be combined according to their sensory characteristics.	Know that food ingredients can be fresh, pre-cooked and processed.	Know that a recipe can be adapted by adding or substituting one or more ingredients.
	General	Offer explanations as to why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate	Know about the simple working characteristics of materials and components. Know the correct technical vocabulary for the projects they are undertaking.	Know how to use learning from Science to help design and make products that work. Know how to use learning from Maths to help design and make products that work. Know that materials have both functional properties and aesthetic qualities. Know that materials can be combined and mixed to create more useful characteristics. Know the correct technical vocabulary for the projects they are undertaking.	

	Technical Drawing	<p>Begin to show accuracy and care when drawing</p> <p>Hold a pencil effectively using the tripod grip</p>	<p>Talk about what they can see to focus their drawings. Use different types of lines in their drawings – short, long, straight, wavy, curved, dark, light. Draw with light lines then make darker the lines they are happy with.</p>	<p>Talk about what they can see and highlight key vocabulary in order to focus their drawings. Use right angles and parallel lines in their drawings. To begin to consider proportion in their drawings.</p>	<p>To describe in detail what they can see and highlight key vocabulary in order to focus their drawings. To use 3D shapes and different viewpoints in their drawings. To draw in proportion.</p>
Cooking And Nutrition	Where food comes from	<p>Offer explanations as to why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate</p>	<p>Know that all food comes from plants or animals. Know that all food has to be farmed, grown elsewhere (eg. Home) or caught.</p>	<p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</p>	<p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Know that seasons may affect the food available. Know how food is processed into ingredients that can be eaten or used in cooking.</p>
	Nutrition	<p>Understanding the importance of healthy food choices</p>	<p>Know how to name and sort foods into the five groups in The Eatwell Guide. Know that everyone should eat at least five portions of fruit and vegetables every day.</p>	<p>Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Guide. Know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>

	<p>Food preparation and cooking</p>	<p>Use a range of small tools including scissors, paintbrushes and cutlery</p>	<p>Know how to prepare simple dishes safely and hygienically, without using a heat source. Know how to use techniques such as cutting, peeling and grating.</p>	<p>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p>	<p>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that recipes can be adapted to change the appearance, taste, texture and aroma.</p>
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