



Colgate Primary School DT skills grid

	EYFS	KS1			Lower KS2			Upper KS2	
Thread		Year 1 Apple	Year 1 Maple	Year 2	Year 3	Year 4 Oak	Year 4 Cedar	Year 5	Year 6
Generating ideas- Designing and Evaluating Existing Products	Select appropriate resources.	Talk about their own ideas.	Talk about their own ideas.	Talk about their own ideas and describe how they might achieve them.	Follow a given design criteria and explain how it meets a range of requirements.	Show design meets a range of requirements and is fit for purpose.	Show design meets a range of requirements and is fit for purpose.	Begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose.	Use research of user's individual needs/wants for design.
	Talk about their own ideas.	Describe what/who their product is for and how it will work.	Describe what/who their product is for and how it will work.	Explain the purpose of the product, how it will work and how it will be suitable for the user.	Describe design using an accurately labelled sketch and words. Begin to use ICT to show design.	Use annotated sketches and ICT where possible.	Begin to create own design criteria.	Create own design criteria.	Create own design criteria and specification.
	Begin to draw pictures of their ideas.	Use pictures and words to plan their design.	Use pictures, labels and words to plan their design. Begin to use models where appropriate.	Use pictures, labels, models (and ICT where appropriate) to plan their design.	Make a prototype.	Use research for design ideas.	Use annotated sketches and ICT where possible.	Use cross-sectional planning and annotated sketches.	Clearly explain how parts of the design will work and how they are fit for purpose.
	Use language related to design.	Begin to design a product using design criteria.	Design a product using design criteria.	Design a product using design criteria. Evaluate and use knowledge of existing products to produce ideas.	Use research for design ideas.	Evaluate existing products by considering materials, how well they have been made and if they are fit for purpose.	Make a prototype.	Use computer-aided designs.	Use annotated sketches, cross-sectional planning and exploded diagrams.
		Talk about existing products and say what they do/don't like.	Talk about existing products and say what they do/don't like.		Begin to make a prototype.	Know about some inventors/ designers/chefs etc.	Use research for design ideas.	Model and refine design ideas by making prototypes and using pattern pieces.	Use computer-aided designs.
					Begin to evaluate existing products by considering materials, how well they have been made and if they are fit for purpose.		Evaluate existing products by considering materials, how well they have been made and if they are fit for purpose.	Independently model and refine design ideas by making prototypes and using pattern pieces.	
					Begin to learn about some inventors/ designers/chefs etc.		Know about some inventors/ designers/chefs etc.	Use internet and questionnaires for research for design ideas.	Thoroughly evaluate existing products by considering sustainability of materials, cost, how well they have been made and fitness for purpose.
								Evaluate and discuss existing products by considering materials, how well they have been made and if they are fit for purpose.	Discuss some key inventors/ chefs/ designers etc.
								Talk about some inventors/ designers/chefs etc.	

Make	<p>Practise some appropriate safety measures independently.</p> <p>Choose the materials they want to use.</p> <p>Use one-handed tools and equipment.</p> <p>Join different materials and explore different textures.</p>	<p>Begin to measure, mark out, cut and shape with support.</p> <p>Select tools/equipment to cut, shape, join and finish and explain choices.</p> <p>Choose suitable materials and explain choices.</p>	<p>Measure, mark out, cut and shape with support.</p> <p>Select tools/equipment to cut, shape, join and finish and explain choices.</p> <p>Choose suitable materials and explain choices.</p> <p>Begin to use finishing techniques.</p>	<p>Describe what they are making and why it fits the purpose.</p> <p>Measure, mark out, cut and shape with increasing independence.</p> <p>Join materials/ components in different ways and explain choices.</p> <p>Use finishing techniques to improve appearance.</p>	<p>Begin to measure, mark out, cut, shape, assemble and join materials/ components with some accuracy.</p> <p>Choose appropriate materials that are fit for purpose.</p> <p>Work through their plan in order.</p> <p>Begin to apply range of finishing techniques with some accuracy.</p>	<p>Measure, mark out, cut, shape, assemble and join materials/ components with some accuracy.</p> <p>Select appropriate materials that are fit for purpose.</p> <p>Select suitable tools and equipment, explain choices in relation to required techniques and use accurately.</p> <p>Apply a range of finishing techniques with some accuracy.</p> <p>Refer to design criteria whilst making.</p>	<p>Measure, mark out, cut, shape, assemble and join materials/ components with some accuracy.</p> <p>Select appropriate materials that are fit for purpose and explain choices.</p> <p>Select suitable tools and equipment, explain choices in relation to required techniques and use accurately.</p> <p>Apply a range of finishing techniques with some accuracy.</p> <p>Refer to design criteria whilst making.</p>	<p>Use equipment/ tools with a good level of precision.</p> <p>Select appropriate materials that are fit for purpose and consider functionality.</p> <p>Create and follow a detailed step by step plan.</p> <p>Accurately measure, mark out, cut, shape, join and assemble materials/ components with increasing independence.</p> <p>Apply a range of finishing techniques with increasing accuracy.</p> <p>Evaluate quality of design whilst making.</p>	<p>Use selected tools/ equipment precisely.</p> <p>Select appropriate materials that are fit for purpose and consider functionality and aesthetics.</p> <p>Create, follow and adapt a detailed step by step plan.</p> <p>Accurately measure, mark out, cut, shape, join and assemble materials/ components with greater independence and make improvements where necessary.</p> <p>Accurately apply a range of finishing techniques.</p> <p>Evaluate quality of design whilst making and consider fitness for purpose.</p>
Evaluate	<p>Describe what they like about their creation.</p>	<p>Say what they like about their product, what worked well and what they found easy or hard.</p> <p>With support, begin to say if their product meets any of the design criteria.</p>	<p>Say what they like about their product, what worked well and what they found easy or hard.</p> <p>With support, begin to say if their product meets any of the design criteria and how they could make improvements.</p>	<p>Describe what worked well in relation to the design criteria.</p> <p>Explain what they would do differently if they were to create the product again.</p>	<p>Use design criteria to evaluate their finished product.</p> <p>Explain what they would change next time and why.</p>	<p>Use design criteria to evaluate their finished product.</p> <p>Explain how they could improve their original design in the future.</p>	<p>Use design criteria to evaluate their finished product.</p> <p>Explain how they could improve their original design in the future.</p>	<p>Evaluate ideas and finished product against specification, considering purpose and appearance.</p> <p>Test final product.</p> <p>Begin to consider the views of others to improve their work.</p>	<p>Evaluate ideas and finished product against specification, stating fitness for purpose.</p> <p>Test final product. Explain what would improve it and the effect different resources may have had.</p> <p>Consider the views of others to further improve their work.</p>

Technical Knowledge- Materials/ Structures	<p>Choose the materials they want to use.</p> <p>Use one-handed tools and equipment.</p> <p>Join different materials and explore different textures.</p>	<p>Measure and join materials, with some support.</p> <p>Describe differences in materials.</p> <p>Suggest ways to make material/product stronger, stiffer and more stable.</p>	<p>Measure and join materials, with some support.</p> <p>Describe differences in materials.</p> <p>Suggest ways to make material/product stronger, stiffer and more stable.</p>	<p>Measure materials and join in different ways.</p> <p>Describe some different characteristics of materials.</p> <p>Use joining, rolling, folding etc and own ideas to make it stronger, stiffer and more stable.</p>	<p>Use appropriate materials.</p> <p>Begin to work accurately to make cuts and holes.</p> <p>Begin to make strong, stiff structures.</p>	<p>Measure carefully to avoid mistakes.</p> <p>Make a strong, stiff structure.</p> <p>Begin to adapt structure if original did not work.</p>	<p>Measure carefully to avoid mistakes.</p> <p>Make a strong, stiff structure.</p> <p>Adapt structure if original did not work.</p>	<p>Select materials carefully, considering intended use of product and appearance.</p> <p>Measure accurately enough to ensure precision.</p> <p>Begin to reinforce and strengthen a 3D frame.</p>	<p>Select materials carefully, considering intended use of product, appearance and functionality.</p> <p>Reinforce and strengthen a 3D frame.</p>
Technical Knowledge- Mechanisms	<p>Join different materials and components with support e.g. split pins and card</p>	<p>Begin to use levers or slides.</p>	<p>Begin to use levers or slides.</p>	<p>Use levers or slides.</p> <p>Begin to understand how to use wheels and axles.</p>	<p>Use simple lever and linkages to create movement and explain how they work.</p> <p>Alter product to make it better.</p>	<p>Use lever and linkages to create movement and explain how they work.</p> <p>Use pneumatics to create movement.</p> <p>Explain alterations to product after checking it.</p>	<p>Use lever and linkages to create movement and explain how they work.</p> <p>Use pneumatics to create movement.</p> <p>Explain alterations to product after checking it.</p>	<p>Use cams, pulleys or gears to create movement.</p> <p>Incorporate hydraulics.</p> <p>Refine product after testing, considering appearance, functionality and purpose.</p> <p>Explain why the components are suitable for their product.</p>	
Technical Knowledge- Textiles	<p>Choose the materials they want to use.</p> <p>Use one-handed tools/equipment</p> <p>Join different materials and explore different textures.</p>	<p>Begin to measure, cut and join textiles to make a product, with some support.</p> <p>Choose suitable textiles.</p>	<p>Measure, cut and join textiles to make a product, with some support.</p> <p>Choose suitable textiles.</p>	<p>Measure and carefully cut textiles to produce accurate pieces.</p> <p>Join textiles together to make a product and explain how they did it.</p> <p>Explain choices of textile.</p>	<p>Join different textiles in different ways.</p> <p>Choose textiles considering appearance and functionality.</p>	<p>Think about user when choosing textiles.</p> <p>Begin to devise a template.</p> <p>Describe how to make a product strong.</p>	<p>Think about user when choosing textiles.</p> <p>Begin to devise a template.</p> <p>Describe how to make a product strong.</p>	<p>Consider user and appearance when choosing textiles.</p> <p>Use own template.</p> <p>Explain how to make a product stronger and look more appealing.</p>	<p>Think about user's wants/needs and aesthetics when choosing textiles.</p> <p>Make a prototype.</p> <p>Describe how they could improve the product.</p>

Technical Knowledge- Food and Nutrition	<p>Wash hands before touching food. Know why this is important.</p> <p>Talk about different flavours and what they like/dislike.</p> <p>Describe the food they eat.</p> <p>Begin to use tools to chop, cut etc with support.</p> <p>Begin to name foods which are healthy/unhealthy.</p>	<p>Describe textures.</p> <p>Cut, peel and grate safely, with support.</p> <p>Wash hands before preparing food.</p> <p>Begin to say where some foods come from (e.g. plant or animal).</p> <p>Describe some foods which are healthy and unhealthy.</p>	<p>Describe textures.</p> <p>Cut, peel and grate safely, with support.</p> <p>Wash hands before preparing food.</p> <p>Begin to say where some foods come from (e.g. plant or animal).</p> <p>Describe some foods which are healthy and unhealthy.</p>	<p>Cut, peel and grate with increasing confidence.</p> <p>Discuss the importance of hygiene when preparing food. Know the importance of a healthy diet.</p> <p>Say where food has come from e.g. animal or underground.</p> <p>Know that there are different groups of food.</p>	<p>Become more confident with techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading etc.</p> <p>Prepare and cook some dishes safely and hygienically.</p> <p>Know that a healthy diet is a variety/balance of food.</p> <p>Begin to understand that food comes from the UK and the wider world.</p>	<p>Use some techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading etc.</p> <p>Explain the importance of food and drink for active/healthy bodies.</p> <p>Understand ingredients can be fresh, pre-cooked or processed.</p> <p>Present product in attractive/appealing ways.</p>	<p>Use some techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading etc.</p> <p>Explain the importance of food and drink for active/healthy bodies.</p> <p>Begin to understand about food being grown, reared or caught in the UK and wider world.</p> <p>Present product in attractive/appealing ways.</p>	<p>Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading etc.</p> <p>Understand about food being grown, reared or caught in the UK and wider world.</p> <p>Present product in attractive/appealing ways and ensure it is fit for purpose.</p> <p>Describe how recipes can be adapted to change appearance, taste, texture and aroma.</p>	<p>Name some types of food that are grown, reared or caught in the UK and wider world.</p> <p>Describe some of the different substances in food and drink and how they can affect health.</p> <p>Adapt recipes to change appearance, taste, texture and aroma.</p> <p>Know about some food processing methods.</p> <p>Explain seasonality of foods.</p>
Technical Knowledge- Electrical Systems					<p>Use a simple circuit.</p>	<p>Use a variety of components in a circuit e.g., bulbs, buzzers.</p>	<p>Use a variety of components in a circuit e.g., bulbs, buzzers.</p>	<p>Use a switch in the circuit.</p> <p>Confidently use a variety of components in a circuit.</p>	<p>Use different types of circuit.</p> <p>Program a computer to monitor changes in the environment and control the product.</p>