PYE BANK DESIGN AND TECHNOLOGY SKILLS PROGRESSION

	FS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing							
Understanding contexts, users and purposes	• Orally state which products they are making. • Orally state how their product will work.	• Work confidently within the context of imaginary, story based and the local community. • State what products they are designing and making. • State who their products are for. • Explain in a simple sentence how their products will work. • Use simple design criteria to help develop their ideas.	• Work confidently within the context of industry and the wider environment. • State what products they are designing and making and why. • State whether their products are for themselves or other users. • State what their products are for. • Explain clearly how their products will work. • Say how they will make their products suitable for the intended users. • Use simple design criteria to help develop their ideas.	• Work confidently within the context of the school, home and wider environment. • Gather information about the need behind their product. • Simply explain the purpose of their product. • Develop a class design criteria for the product. • Describe how parts of their product link to the design criteria. • Explain how parts of the product work.	• Work confidently within the context of the school and industry. • Collate information about the needs and want behind the product. • Describe the purpose of their product. • Develop a design criteria for a product as a group. • Explain how design features of their product link to design criteria and intended audience. • Explain how specific parts of their product work.	• Work confidently within the context of the school, leisure and industry. • Carry out class research to identify the needs and preferences for product. • Describe the purpose of their product with writing and diagrams. • Develop an individual design criteria for their product. • Explain how design features of their product link to design criteria and intended audience. • Explain how specific parts of their product work (orally and in writing).	• Work confidently within the context of the school, culture, industry and wider environment. • Carry out individual research to identify the needs and preferences for products. • Develop a simple design specification to help guide their product thinking. • Carefully describe the purpose of their product with writing and diagrams. • Explain how design features of their product link to their specification guide. • Thoroughly explain how specific parts of their product work
Generating, developing, modelling and communicating ideas	• Develop and communicate ideas through talking.	• Generate ideas by drawing on their own experiences. • Develop and communicate	• Use knowledge of existing products to help come up with ideas. • Develop and communicate	• Share and generate ideas through discussion. • Create sketches of their ideas.	• Share and generate ideas focused on the user and product needs.	• Share and generate ideas drawing on research gathered.	• Share and generate innovative ideas drawing on research gathered.

		ideas through talking and drawing.	ideas though 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.	• Make design decisions thinking about resources needed. • Model ideas using prototypes and patterns.	• Create annotated sketches of their ideas. • Make design decisions thinking about resources needed. • Use computer aided-design to develop ideas.	• Use annotated sketches, written explanations and cross-sectional drawings to develop ideas. • Make design decisions thinking about time, resources and cost. • Model ideas using prototypes and patterns.	• Use annotated sketches, written explanations and cross-sectional drawings to develop ideas. • Make design decisions thinking about time, resources and cost. • Model ideas using prototypes and patterns.
Making							
Planning	• Orally plan what they are going to do. • Select from a range of tools and equipment. • Select from a range of materials and components with support.	• Plan what they are going to do. • Select from a range tools and equipment. • Select from a range of materials and components.	• Plan what they are going to do. • Select from a range of tools and equipment, explaining their choices. • Select from a range of materials and components according to their characteristics.	• With a partner, order the stages of making. • Select tools, equipment, materials and components suitable for the task. • Verbally explain choices of tools, equipment, materials and components.	• Independently order the stages of making. • Carefully select tools, equipment, materials and components suitable for the task. • Verbally explain choices of tools, equipment, materials and components with reasons linked to design.	• Explain and sequence a step by step plan for making. • Select tools and equipment suitable for the Y5 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 Y5 task. • Explain their choice of materials and components according to functions properties and	• Formulate a step by step plans as a guide for making. • Select tools and equipment suitable for the Y6 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 Y6 task. • Explain their choice of materials and components according to functions properties and

						aesthetic qualities.	aesthetic qualities.
Practical skills and techniques	• Follow procedures for safety and hygiene with support. • Use a range of materials. • Cut a range of materials. • Join materials by sticking. • Use finishing techniques.	• Follow procedures for safety and hygiene. • Use a range of materials and components, including construction materials, food ingredients and mechanical components. • Cut and shape a range of materials. • Assemble join and combine materials and components. • Use finishing techniques, including those from art and design.	• Follow procedures for safety and hygiene. • Use a range of materials and components, including 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.	**Follow procedures for safety and hygiene.** • Use a range of materials and components for food ingredients, mechanisms and textiles. • 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 with some accuracy.	• Use a range of materials and components for food ingredients, electrical systems and structures. • Measure, mark out, cut and shape materials and components with increasing accuracy. • Assemble, join and combine materials and components with increasing accuracy. • Apply a range of finishing techniques with increasing accuracy.	• Use a range of materials and components for food ingredients, mechanisms and electrical systems. • 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. • Use techniques that involve more than two steps. • With support, solve problems with designs as they arise.	• Use a range of materials and components for food ingredients, structures and textiles. • Precisely measure, mark out, cut and shape materials and components. • Precisely assemble, join and combine materials and components. • Precisely apply a range of finishing techniques. • Use techniques that involve a number of steps. • Solve problems with designs as they arise.
Evaluating							
Own ideas and products	• Talk about their ideas and what they are making. • Make adaptations to their product during making.	• Talk about their design ideas and what they are making. • Make simple judgements about their products against design criteria. • Suggest how their product could be improved.	• Talk about their design ideas and what they are making, explaining their choices. • Make simple judgements about their products against design criteria. • Suggest how their product could be	• Verbally discuss strengths and areas for development in their ideas and products. • Consider peer feedback to help improve products. • Refer back to their design plan during the	• Identify the strengths and areas for development in their ideas and products. • Use their design criteria to evaluate their completed product. • Consider the views of others	• Evaluate the quality of the design and manufacture of their product through all stages of the design and making process. • Identify the strengths and areas for development of their final	• Critically evaluate the quality of the design, manufacture and fitness for purpose of their products through all stages of the design and making process. • Identify the strengths and areas for

			improved, giving reasons for their choices.	making and evaluating process.	during the making and evaluating process to help improve products.	product, considering the views of peers. • Evaluate their product against their design plan.	development of their final product, considering the views of peers or intended users. • Evaluate their product against their design specification.
Existing products	Explore: • What products are. • What products are for. • How products work. • What materials products are made from.	Explore: • 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.	Explore: • 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.	Investigate and analyse: • How well products have been designed and made • Who designed and made the products • Where and when products were designed and made • Whether products can be recycled or reused • What materials have been chosen and why • How the product could have been constructed • How well the product works • Is the product fit for purpose		Investigate and analyse: • How well products have been designed and made • Why materials have been chosen • How much the product cost to make • How innovative products are • How sustainable the materials in products are • What methods of construction have been used • What impacts products have beyond their intended purpose • How well products are made and if the achieve their purpose • How well products meet users' needs and wants	
Key events and individuals	Not required in KS1			Across KS2 pupils should: • Explore inventors, designers, engineers, chefs and manufactures who have developed ground breaking products linked to areas of study.			
Technical Knowledge							
Making products work	Pupils will know: • How freestanding structures can be made stronger. • The correct technical vocabulary for the	Pupils will know: • About the simple working characteristics of materials and components.	Pupils will know: • About the simple working characteristics of materials and components.	At their age related level, pupils will: • Use learning from other areas of the curriculum to support their work. • Use the correct technical vocabulary. Pupils will know: • Materials have both functional and aesthetic qualities. • Materials can be combined or mixed to create more useful characteristics.			

	products they are undertaking.	• About the movement of simple mechanisms such as levers and sliders. • How freestanding structures can be made stronger, stiffer and more stable. • The correct technical vocabulary for the products they are undertaking.	• About the movement of simple mechanisms such as wheels and axles. • How freestanding structures can be made stronger, stiffer and more stable. • That a 3D textile product can be assembled from two identical fabric shapes. • That food ingredients should be combined according to their sensory characteristics. • The technical vocabulary for the products they are undertaking.	Pupils will know: • How mechanical systems, such as levers and linkages create movement. • That a single fabric shape can be used to make a 3D textile product. • That food ingredients can be fresh, pre-cooked and processed.	Pupils will know: • How simple electrical circuits and components can be used to create functional products. • How to use a CAD program to develop a product. • How to make strong, stiff shell structures. • That food ingredients can be fresh, pre-cooked and processed.	Pupils will know: • How mechanical systems such as pulleys and gears create movement. • How more complex electrical circuits and components can be used to create functional products. • How to program a computer to monitor changes in the environment and control their products. • That a recipe can be adapted by adding or substituting one or more ingredients.	Pupils will know: • How to reinforce and strengthen a 3D framework • That a 3D textiles product can be made from a combination of fabric shapes. • That a recipe can be adapted by adding or substituting one or more ingredients.
Cooking and Nutrition							
Where food comes from	• Pupils should know that fruit and vegetables are grown on plants.	• Pupils should know that all food comes from plants or animals.	• Pupils should know that all food comes from plants or animals. • That food has to be farmed, grown	Pupils should know: • Where food is grown, reared and caught in the UK, Europe and Wider World in relation to the products they are making.		Pupils should know: • Where food is grown, reared and caught in the UK, Europe and Wider World in relation to the products they are making. • That seasons may affect the food available. • How food is processed into ingredients that can be eaten or used in cooking.	

			elsewhere or caught.				
Food preparation, cooking and nutrition	Pupils should know: • How to prepare dishes safely and hygienically. • How to use techniques such as peeling and cutting.	Pupils should know: • How to prepare simple dishes safely and hygienically. • How to use techniques such as cutting, peeling and grating.	Pupils should know: • How to name and sort foods into the five groups in The eatwell plate. • That everyone should eat at least five portions of fruit and vegetables every day. • How to prepare simple dishes safely and hygienically, without using a heat source. • How to use techniques such as cutting, peeling and grating.	Pupils should know: • How to prepare and cook a range of bread. • How to use a range of techniques necessary to make bread (grating, mixing, spreading, kneading and baking). • That a healthy diet is made up of a balance of food groups and provides energy for the body.	Pupils should know: • How to prepare and cook a healthy pizza. • How to use a range of techniques necessary to make pizza (peeling, chopping, grating, mixing, spreading, kneading and baking). • That a healthy diet is made up of a balance of food groups and provides energy for the body.	Pupils should know: • How to prepare and cook a range of seasonal biscuits. • How to use a range of techniques necessary to make seasonal biscuits (peeling, chopping, grating, mixing, spreading, kneading and baking). • How biscuit recipes can be adapted to change the appearance, taste, texture and aroma. • That products can contain different substances needed for health e.g. nutrients, water, fibre.	Pupils should know: • How to prepare and cook fruit muffins or scones. • How to use a range of techniques necessary to make fruit muffins or scones (peeling, chopping, grating, mixing, spreading, kneading and baking). • How biscuit recipes can be adapted to change the appearance, taste, texture and aroma. • That products can contain different substances needed for health e.g. nutrients, water, fibre.