White Hall Academy Progression of Skills
SUBJECT- Design and Technology
Learning Objectives are in black with success criteria in blue

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link-Expressive arts and design	Design, make, evaluate and improve	Design, make, evaluate and improve	Design, make, evaluate and improve	Design, make, evaluate and improve	Design, make, evaluate and improve	Design, make, evaluate and improve
ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; I can explore, use and refine a variety of artistic effects to express my ideas and feelings. Share their creations, explaining the process they have used; I can return to and build on my previous learning. I can create collaboratively with others.	**Design** products that have a definite function for a particular person e.g. a Christmas card. I can design an item using my own ideas from exploring real life examples. I can explain my ideas through talking and drawing. I can design an object with an intended purpose and for a particular person.	**Design** products that have a definite function for a particular person/animal. I can design an object with an intended purpose and for a particular person/people. I can think about the size, shape and parts of my object, what materials, joining and finishing techniques to use. I can discuss how to make my object strong enough for the intended user. I can modify the design if needed, as the project evolves e.g. bird house model.	**Design** Investigate and analyse a range of existing products. I can develop my own design criteria based on my investigations. I can refine work and techniques as work progresses, continually evaluating the product design. I can use software to design and represent product designs. I can select materials and components suitable for the task. I can explain my choice of materials and components according to functional properties	**Design** Investigate and analyse a range of existing products. Identify some of the great designers (such as Brunel, Mackintosh, Philip Treacy, Marcel Breuer) in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. I can develop my own design criteria based on my investigations. I can refine work and techniques as work progresses, continually evaluating the product design.	**Design** by considering the user, prioritising good function before profit. I can generate innovative ideas, drawing on research. I can design a product, taking account of constraints such as time, resources and cost. I can produce appropriate lists of tools, equipment and materials that I need. I can formulate step-by-step plans as a guide to making.	**Design** by considering the user, prioritising good function before profit. I can generate innovative ideas, drawing on research. I can design a product, taking account of constraints such as time, resources and cost. I can produce appropriate lists of tools, equipment and materials that I need. I can formulate step-by-step plans as a guide to making.

I can share ideas, resources and skills. Make use of props and materials when role playing characters in narratives and stories. I can use objects to represent and create contexts in my play.		I can explain my ideas through talking, drawing and/or using ICT (2simple).	and aesthetic qualities.	I can use software to design and represent product designs. I can disassemble products to understand how they work, to inform my design.		
	Make products to meet basic design brief. I can select from and use a range of tools and equipment to perform practical tasks e.g. cutting and shaping.	**Make** products to meet basic design brief. I can select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing.	**Make** products by working efficiently (such as by carefully selecting materials). I can cut materials accurately and safely. I can measure and mark out to the nearest centimetre. I can apply appropriate cutting and shaping techniques. I can select appropriate joining techniques/ resources.	**Make** products by working efficiently (such as by carefully selecting materials). I can cut materials accurately and safely by selecting appropriate tools. I can measure and mark out to the nearest millimetre. I can apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).	**Make-** Produce several prototypes each building upon the previous to optimise design. I can use techniques that involve a number of steps and demonstrate resourcefulness when tackling practical problems.	**Make-** show design processes such as prototypes, cross-sectional diagrams and CAD. I can use techniques that involve a number of steps and demonstrate resourcefulness when tackling practical problems.

				I can select appropriate joining techniques/ resources.		
	Evaluate their ideas and products against design criteria. I can review my product's function and suggest improvements. I know how products work and how they are used. I know how to make my product more.	**Evaluate** their ideas and products against design criteria. I can review my product's function and explain my strengths as well as suggesting improvements for next time. I know how products work and how they are used. I know what materials/ products are made from. I know what I like and dislike about products.	**Evaluate** continually evaluating the product design showing technical knowledge. I know how some mechanical systems create movement. I know how simple electrical circuits and components can be used to create functional products. I know how to make strong structures. I know that a single fabric shape can be used to make a 3D textiles product. I know that food ingredients can be fresh, pre-cooked and processed. I know where products are designed and made. I know whether	**Evaluate** continually evaluating the product design showing technical knowledge. I know how mechanical systems such as levers and linkages or pneumatic systems create movement. I know how simple electrical circuits and components can be used to create functional products. I know how to make strong structures. I know that a single fabric shape can be used to make a 3D textiles product. I know that food ingredients can be fresh, pre-cooked and processed.	**Evaluate** by analysing the product design showing technical knowledge. I know how mechanical systems such as cams or pulleys or gears create movement. I know how more complex electrical circuits and components can be used to create functional products. I know how to program a computer to monitor changes in the environment and control my products. I know that a 3D textiles product can be made from a combination of fabric shapes. I know that a recipe can be adapted by adding or substituting one or more	**Evaluate** by analysing the product design showing technical knowledge. I know how mechanical systems such as cams or pulleys or gears create movement. I know how more complex electrical circuits and components can be used to create functional products. I know how to program a computer to monitor changes in the environment and control my products. I know that a 3D textiles product can be made from a combination of fabric shapes. I know that a recipe can be adapted by adding or substituting one or more

			products can be recycled or reused.		ingredients.	ingredients.

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link- Physical Education / PSED	Food	Food	Food		Food	
ELG: Physical Education Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. I can handle tools correctly e.g. scissors, knives and forks	**Design** products that have a definite function for a particular person e.g. a healthy sandwich/meal. I can discuss food that I enjoy and realise that other people may have different preferences. I can explain which foods I like and dislike. I can design a dish using my own ideas from my experiences. I can explain my ideas through talking. I can design a dish with an intended purpose and for a particular person.	**Design** products that have a definite function for a particular person**/group of people.** I can discuss food that I enjoy and realise that people have preferences for different types of products and ingredients. I can explain which foods I like and dislike, and describing their sensory characteristics. I can design a dish using my own ideas. I can explain my ideas through talking and drawing. I can design a dish with an intended purpose and for a	**Design** predominately savoury dishes. I can design a savoury dish using a variety and balance of different food and drink, as depicted in The Eat-Well plate e.g. pizzas, pastas and pasties.		**Design** different foods and drinks containing different substances – nutrients, water and fibre – that are needed for our health. I can design food and drink which are needed to provide energy for the body, taking in to account people's dietary needs, culture, seasonal food availability, aromas and presentation. I can create and refine recipes, methods, portion size, cooking times and temperatures. I can use surveys, interviews, questionnaires and web-based resources to inform my design.	

		particular person.			I can formulate step-by-step plans as a guide to making.	
ELG: Personal, Social and Emotional Development Manage their own needs. I can wash my hands with soap and water. I can make healthy food choices. I can begin to say which foods are healthy or unhealthy.	**Make** products to meet basic design brief. I can follow procedures for safety and hygiene. I can use a range of food ingredients. I can measure (cups), prepare and weigh my ingredients with support if needed. I can prepare simple dishes safely and hygienically, without using a heat source. I can use techniques such as cutting and peeling.	**Make** products to meet basic design brief. I can follow procedures for safety and hygiene. I can use a range of food ingredients included my design. I can measure (scales), prepare and weigh my ingredients. I can prepare simple dishes safely and hygienically, without using a heat source. I can use techniques such as cutting, peeling and grating.	**Make,** prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. I can prepare a meal including those which require the use of heat sources e.g. boiling, roasting and baking.		**Make,** prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. I can prepare a meal including those which require the use of heat sources e.g. boiling, roasting and baking.	
	Evaluate their ideas and products against design criteria showing technical knowledge. I can use the knowledge of my	**Evaluate** their ideas and products against design criteria showing technical knowledge. I can explain that all food comes from	**Evaluate** -use their design criteria to evaluate their completed products showing technical knowledge. I know that food can		**Evaluate** investigate and analyse showing technical knowledge. I know how much my ingredients cost. I know what	

	environment to explain where some foods come from. I can explain that food has to be farmed or grown elsewhere. I can sort some foods on to 'The Eat-Well plate.' I can review my dish and suggest improvements.	plants or animals. I can explain that food has to be farmed, grown elsewhere (e.g. home) or caught. I can sort foods on to 'The Eat-Well plate.' I know that some foods are grown in different ways. I can review my dish by describing the taste and suggest improvements.	be grown, reared, caught – 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. I know food produced is processed into ingredients that can be eaten or used in cooking, for example grain is milled to produce flour, oil is pressed from olives, butter is made from milk. I understand and apply principles of a healthy and varied diet.		sustainability farming is. I know what impact my products have beyond their intended purpose. I can discuss the effectiveness of the design decisions made in existing products. I can discuss effectiveness of the design decisions made in my own products. I know that food can be grown, reared, caught – 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. I know food produced is processed into ingredients that can be eaten or used in cooking, for example grain is milled to produce flour, oil is pressed from olives,	

					butter is made from milk. I understand and apply principles of a healthy and varied diet. I understand the importance of correct storage and handling of ingredients (using knowledge of microorganisms).	

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link - Expressive arts and design	Textiles	Textiles	Textiles		Textiles	
ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; I can explore, use and refine a variety of artistic effects to express my ideas and feelings. Share their creations, explaining the process	**Design** products that have a definite function for a particular person e.g. use a running stitch to join fabric. I can design an item using my own ideas. I can explain my ideas through talking and drawing. I can design an object with an intended purpose and for a particular person.	**Design** products that have a definite function for a particular person e.g. use a running stitch to join fabric. I can design an item using my own ideas. I can explain my ideas through talking, drawing and/or using ICT. I can design an object with an intended purpose and for a particular person/	**Design-c**reate innovative designs that improve upon existing products. I can design with the user in mind, motivated by the service a product will offer.		**Design-** create innovative designs that improve upon existing products. I can combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. I can use surveys, interviews, questionnaires and web-based resources to inform my design.	

they have used; I can return to and build on my previous learning. I can create collaboratively with others. I can share ideas, resources and skills. Make use of props and materials when role playing characters in narratives and stories. I can use objects to represent and create contexts in my play.		people.			I can use prototypes, cross-sectional diagrams and computer aided designs to represent designs.	
	Make products to meet basic design brief. I can follow procedures for safety. I can use a range of materials and textiles. I can measure, mark out, cut and shape materials with support if needed.	**Make** products to meet basic design brief. I can follow procedures for safety. I can use a range of materials and textiles. I can measure, mark out, cut and shape materials. I know that a 3-D	**Make** products functional and aesthetic for the user. I understand the need for a seam allowance. I can join textiles with appropriate stitching. I can select the most appropriate techniques to decorate textiles.		**Make** products functional and aesthetic for the user. I can create objects (such as a cushion) that employ a seam allowance. I can join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach	

	I know that a 3-D textiles product can be assembled from two identical fabric shapes. I can use finishing techniques such as adding sequins or printing to alter the appearance of fabric.	textiles product can be assembled from two identical fabric shapes. I can use finishing techniques such as dyeing, adding sequins or printing to alter the appearance of fabric.	I can refine work and techniques as work progresses, continually evaluating the product design.		decoration). I can use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). I can make products through stages of prototypes, making continual refinements. I can ensure products have a high quality finish, using art skills where appropriate.	
	Evaluate their ideas and products against design criteria. I can review my product's function and suggest improvements. I know what materials/ products are made from. I know what I like and dislike about products.	**Evaluate** their ideas and products against design criteria. I can review my product's function and explain my strengths as well as suggesting improvements for next time. I know how products work and how they are used.	**Evaluate-** improve upon existing designs, giving reasons for choices. I can reflect on my work on how it was designed and made compared to an existing design that it was based upon. I can reflect on my own skills and techniques used.		**Evaluate** the design of products so as to suggest improvements to the user experience. I can suggest ways that packaging could be used to advertise the product and make it attractive to sell. I can reflect on the cost of materials and how other materials could be reused	

			I can give reasons for my choice of decoration/materials used.		instead.	

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link - Expressive arts and design				Electricals and Electronics		Electricals and Electronics
ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; I can explore, use and refine a variety of artistic effects to express my ideas and feelings. Share their creations, explaining the process they have used; I can return to and build on my previous learning. I can create collaboratively with others.				**Design –** exploring a range of existing products and functionality. Children should reflect upon the impact of past and contemporary designers, engineers and technologists on the wider world, considering their own responsibilities when developing products. I can design series and parallel circuits.		**Design** by considering the user and function. Children should reflect upon the impact of past and contemporary designers, engineers and technologists on the wider world, considering their own responsibilities when developing products. I can design circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips.)

I can share ideas, resources and skills. Make use of props and materials when role playing characters in narratives and stories. I can use objects to represent and create contexts in my play.						
				Make products by working efficiently (such as by carefully selecting materials). I can populate my own electronic circuits.		**Make** -show design processes such as prototypes, cross-sectional diagrams and CAD. I can incorporate the use of sensing and control components which receive input signals, process them, resulting in outputs such as sound, movement and light.
				Evaluate continually evaluating the product showing technical knowledge. I can evaluate the simple working characteristics of materials and components.		**Evaluate** analysing the product showing technical knowledge. I know how more complex electrical circuits and components can be used to create functional products.

				I can assess how simple electrical circuits and components can be used to create functional products. I can evaluate a range of handmade switches drawing on my science understanding of circuits, conductors and insulators. I can explain how particular parts of my products work.		I know how to program a computer to monitor changes in the environment and control my products (spreadsheets/pie charts etc). I can test the effectiveness of my switches in series circuits and develop an understanding of how night lights are controlled through an electrical system that incorporates an input, process and output. I can explain how particular parts of my products work.
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link - Expressive arts and design	Construction		Construction			
ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;	**Design** products that have a definite function for a particular person e.g practice techniques to join and/or strengthen materials, gluing and reinforcing card I can design an item		**Design** Investigate and analyse a range of existing products. I can develop my own design criteria based on my investigations. I can refine work and techniques as work			

I can explore, use and refine a variety of artistic effects to express my ideas and feelings. Share their creations, explaining the process they have used; I can return to and build on my previous learning. I can create collaboratively with others. I can share ideas, resources and skills. Make use of props and materials when role playing characters in narratives and stories. I can use objects to represent and create contexts in my play.	using my own ideas from exploring real-life examples. I can explain my ideas through talking, drawing and/or using ICT. I can design an object with an intended purpose and for a particular person.		progresses, continually evaluating the product design. I can use software to design and represent product designs. I can select materials and components suitable for the task. I can explain my choice of materials and components according to functional properties and aesthetic qualities.			
	Make products to meet basic design brief. I can use different materials and components.		**Make** products by working efficiently (such as by carefully selecting materials). I can cut materials accurately and safely.			

	I can move simple mechanisms such as levers, sliders, wheels and axles.		I can measure and mark out to the nearest centimetre. I can apply appropriate cutting and shaping techniques. I can select appropriate joining techniques/ resources.			
	Evaluate their ideas and products against design criteria Technical knowledge. I can review my product's function and suggest improvements. I know what materials/ products are made from. I know how to make my object stronger/ more stable.		**Evaluate** improve upon existing designs, giving reasons for choices. I know how some mechanical systems create movement. I know how to make strong structures.			
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link- Physical Education /		Materials		Materials		Materials

Expressive Arts & Design						
ELG: Physical Education Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. I can handle tools correctly e.g. scissors, knives and forks		**Design** products that have a definite function for a particular person. Pupils should always think about who their products will be for. In KS1, users might include themselves, imaginary or story-based characters. I can design an item using my own ideas. I can explain my ideas through talking, drawing and/or using ICT. I can design an object with an intended purpose and for a particular person/ people.		**Design**- investigate and analyse a range of existing products and materials. I can make informed choices about which materials to use in the products I design and make.		**Design** - considering the user and prioritising good function. I can create innovative designs that improve upon existing products.
ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and		**Make** products to meet basic design brief. I can select from and use a range of tools and equipment to perform practical tasks e.g. cutting,		**Make** products by working efficiently (such as by carefully selecting materials). I can apply appropriate cutting and shaping techniques that		**Make** show design processes such as prototypes, cross-sectional diagrams and CAD. I can cut materials with precision and refine the finish with

function; I can explore, use and refine a variety of artistic effects to express my ideas and feelings. Share their creations, explaining the process they have used; I can return to and build on my previous learning. I can create collaboratively with others. I can share ideas, resources and skills. Make use of props and materials when role playing characters in narratives and stories. I can use objects to represent and create contexts in my play.		shaping, joining and finishing. I can demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). I can make a structure or mechanism using different materials.		include cuts within the perimeter of the material (such as slots or cut outs). I can select appropriate joining techniques/ resources. I can use a broad range of both traditional and modern materials, including smart materials.		appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). I can show an understanding of the qualities of materials to choose and appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).
		Evaluate their ideas and products against design criteria showing technical knowledge.		**Evaluate** continually evaluating the product design showing technical knowledge.		**Evaluate** by analysing the product design showing technical knowledge.

		I can review my product's function and explain my strengths as well as suggesting improvements for next time. I know how products work and how they are used. I know which materials would help my object to be stronger/ more stable. I know what materials/ products are made from. I know what I like and dislike about products.		I can discuss the effectiveness of the design decisions made in existing products. I understand the importance of recycle, re-use and reducing waste.		I can evaluate the design of products to suggest improvements to the user experience. I can discuss the effectiveness of the design decisions made in my own products. I know what impact my products have beyond their intended purpose. I understand the importance of recycle, re-use and reducing waste.

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link - Expressive arts and design		Mechanics		Mechanics		Mechanics
ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with		**Design** products that have a definite function for a particular person. Children should be given the		**Design** Investigate and analyse a range of existing products. Children should apply understanding of forces to select a		**Design** by considering the user, prioritising good function. Children should combine electronics and mechanics to

colour, design, texture, form and function; I can explore, use and refine a variety of artistic effects to express my ideas and feelings. Share their creations, explaining the process they have used; I can return to and build on my previous learning. I can create collaboratively with others. I can share ideas, resources and skills. Make use of props and materials when role playing characters in narratives and stories. I can use objects to represent and create contexts in my play.		opportunities to explore and use objects with mechanisms such as wheels, levers, sliders and axles before designing their own. I can design an object using my own ideas. I can think about the size, shape and parts of my object, what materials, joining and finishing techniques to use. I can discuss how to make my object strong enough for the intended user. I can explain my ideas through talking, drawing and/or using ICT. I can design an object with an intended purpose and for a particular person/ people. I can disassemble products to understand how they work.		suitable mechanism eg levers, winding mechanism, pulleys and gears. I can select materials and components suitable for the task. I can explain my choice of materials and components according to functional properties and aesthetic qualities. I can refine work and techniques as work progresses, continually evaluating the product design.		produce original designs I can generate innovative ideas, drawing on research. I can produce appropriate lists of tools, equipment and materials that I need. I can formulate step-by-step plans as a guide to making.

		Make products to meet basic design brief. They think about the size, shape and parts of their object, what materials, joining and finishing techniques to use, how to make things stand up, and how to make them strong enough for the intended user. I can create products using levers, wheels and winding mechanisms. I can select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing. I can make a structure or mechanism using different materials.		**Make** products by working efficiently (such as by carefully selecting materials). I can make mechanical systems such as levers and linkages or pneumatic systems to create movement.		**Make-** show design processes such as prototypes, cross-sectional diagrams and CAD. I can make mechanical systems such as cams or pulleys or gears to create movement.
		Evaluate their ideas and products against design criteria showing technical knowledge.		**Evaluate** continually evaluating the product design showing technical knowledge.		**Evaluate** by analysing the product design showing technical knowledge.

		I can review my product's function and explain my strengths as well as suggesting improvements for next time. I know how products work and how they are used. I know which materials would help my object to be stronger/ more stable.		I know how mechanical systems such as levers and linkages or pneumatic systems create movement.		I know how mechanical systems such as cams or pulleys or gears create movement. I know how to program a computer to monitor changes in the environment and control my products.