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White Hall Academy Progression of Skills document 2019-2020

Design and Technology

User • Purpose • Functionality • Design Decisions • Innovation • Authenticity

KS1 Children should work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment.	**Design** Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Make** Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Evaluate** Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria -Technical knowledge. Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.
KS2 Children should 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. They should develop a simple design specification to guide their thinking. inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.	**Design** Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

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	<u>Evaluate</u> Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world Technical knowledge. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. Apply their understanding of computing to program, monitor and control their products.

Reception	Year 1 OVERVIEW statements	Year 2 OVERVIEW statements	Year 3 OVERVIEW statements	Year 4 OVERVIEW statements	Year 5 OVERVIEW statements	Year 6 OVERVIEW statements
Link-Expressive arts and design (media)	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
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
30-50m Uses various construction materials. I can stack blocks vertically and horizontally, making enclosures and creating spaces eg building towers or models from lego/bricks.	**Design** products that have a definite function for a particular person e.g a xmas card. I can design an item using my own ideas from exploring real life examples. I can explain my ideas through talking and drawing.	**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	**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.	**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	**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.	**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.

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	I can design an object with an intended purpose and for a particular person.	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 I can explain my ideas through talking, drawing and/or using ICT (2simple).	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.	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. I can use software to design and represent product designs. I can disassemble products to understand how they work, to inform my design.	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 produce appropriate lists of tools, equipment and materials that I need. I can formulate step-by-step plans as a guide to making.
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
40-60m Understands that different media can be combined to create new effects. Selects tools and techniques needed. I can choose the materials I need and adapt my work to make it better eg making bird boxes from recycled materials.	**Make** products to meet basic design brief. I can select from and use a range of tools and equipment to perform practical tasks eg 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 eg 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	**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	**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.

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			techniques. I can select appropriate joining techniques/ resources.	appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). I can select appropriate joining techniques/ resources.	
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
ELG They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. I can make links from my own experiences, make predictions and review my work eg making boats to investigate which materials float?	**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	**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	**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	**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

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			ingredients can be fresh, pre-cooked and processed. I know where products are designed and made. I know whether products can be recycled or reused.	textiles product. I know that food ingredients can be fresh, pre-cooked and processed.	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 ingredients.	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 ingredients.

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food Link- health and self-care	Food	Food	Food- lower KS2		Food- upper KS2	
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
30-50m Understands that equipment and tools have to be used safely. I can handle tools correctly e.g scissors	**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	**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.	**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 eg 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	

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	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.	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 particular person.			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. I can formulate step-by-step plans as a guide to making.	
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
40-60m Shows some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health. I can get dressed myself and follow a hygienic routine when going to the toilet.	**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.	**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.	**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.	

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I can prepare simple dishes safely and hygienically, without using a heat source. I can use techniques such as cutting and peeling.	I can prepare simple dishes safely and hygienically, without using a heat source. I can use techniques such as cutting, peeling and grating.				
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
ELG Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. I can explain which foods are healthy for snacks and which ones are not. I can explain using talking or through role play, why my body needs exercise and rest.	**Evaluate** their ideas and products against design criteria showing technical knowledge. I can use the knowledge of my 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.	**Evaluate** their ideas and products against design criteria showing technical knowledge. I can explain that all food comes from 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	**Evaluate** -use their design criteria to evaluate their completed products showing technical knowledge. 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		**Evaluate** investigate and analyse showing technical knowledge. I know how much my ingredients cost. I know what 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.	

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		improvements.	pressed from olives, butter is made from milk. I understand and apply principles of a healthy and varied diet.		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).	

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Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Link -Art	Textiles		Textiles lower KS2		Textiles upper KS2	
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
30-50m Beginning to be interested in and describe the texture of things. I can choose my own art activity and use more complex sentences to link the thoughts of my design (e.g. *using and, because*).	**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/ people.	**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. I can use prototypes, cross-sectional diagrams and computer aided designs to represent designs.	
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
40-60m Selects appropriate resources and adapts work where necessary. I can find new ways to do things	**Make** products to meet basic design brief. I can follow procedures for safety.	**Make** products to meet basic design brief. I can follow procedures for safety.	**Make** products functional and aesthetic for the user. I understand the need for a seam allowance.		**Make** products functional and aesthetic for the user. I can create objects (such as a cushion) that employ a seam	

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(assemble, stick, balance and join). A1 A2 S1 S2 S1 S2	I can use a range of materials and textiles. I can measure, mark out, cut and shape materials with support if needed. 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. A1 A2 S1 S2 S1 S2	I can use a range of materials and textiles. I can measure, mark out, cut and shape materials. I know that a 3-D 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. A1 A2 S1 S2 S1 S2	I can join textiles with appropriate stitching. I can select the most appropriate techniques to decorate textiles. I can refine work and techniques as work progresses, continually evaluating the product design. A1 A2 S1 S2 S1 S2	 A1 A2 S1 S2 S1 S2	allowance. I can join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach 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. A1 A2 S1 S2 S1 S2	 A1 A2 S1 S2 S1 S2
ELG They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and	**Evaluate** their ideas and products against design criteria. I can review my product's function and suggest	**Evaluate** their ideas and products against design criteria. I can review my product's function and explain my	**Evaluate-** improve upon existing designs, giving reasons for choices. I can reflect on my		**Evaluate** the design of products so as to suggest improvements to the user experience. I can suggest ways	

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function. I can make links from my own experiences, make predictions about my final object and review my work orally.	improvements. I know what materials/ products are made from. I know what I like and dislike about products.	strengths as well as suggesting improvements for next time. I know how products work and how they are used.	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. I can give reasons for my choice of decoration/materials used.		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 instead.	

Reception						Year 1						Year 2						Year 3						Year 4						Year 5						Year 6					
Link-Technology																								Electricals and Electronics												Electricals and Electronics					
A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2
30-50m Knows how to operate simple equipment. I can turn on a CD player, use interactive devices and use remote controls.																								**Design –** exploring a range of existing products and functionality. Children should reflect upon the impact of past and contemporary designers, engineers												**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,					

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				and technologists on the wider world, considering their own responsibilities when developing products. I can design series and parallel circuits.		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.)
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
40-60m Completes a simple program on a computer. I can programme a Bee Bot to move to selected place.				**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.
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
ELG Children recognise that a range of technology is used in places such as homes and schools. I can explain the difference in technology devices I use at home and at			**Evaluate** continually evaluating the product design showing technical knowledge. I know how simple electrical circuits and components can be used to create	**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.

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school. I know what a charging light represents and how to replace an electronic device for charging.			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
Construction link-media	Construction		Construction			
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
30-50m Uses various construction materials. I can join construction pieces together to build and balance.	**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			

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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.		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.			
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
40-60m Constructs with a purpose in mind, using a variety of resources. I can use my past experiences to influence the making new things using different materials for effect.	**Make** products to meet basic design brief. I can use different materials and components. I can move simple mechanisms such as levers, sliders, wheels and axles.		**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.			

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			I can select appropriate joining techniques/ resources.			
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
ELG They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. I can plan and create a model using skills I have learned. I can explain and review its function orally.	**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- Moving and handling		Materials		Materials		Materials
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
30-50m Uses one-handed tools and equipment. I can make snips in paper with child scissors.		**Design** products that have a definite function for a particular person. Pupils should always think about who their products will be for.		**Design**- investigate and analyse a range of existing products and materials. I can make informed choices about which		**Design** - considering the user and prioritising good function. I can create innovative designs that improve upon

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		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.		materials to use in the products I design and make.		existing products.
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
40-60m Handles tools, objects, construction and malleable materials safely and with increasing control. I can create an object independently and tell you what about it.		**Make** products to meet basic design brief. I can select from and use a range of tools and equipment to perform practical tasks eg cutting, shaping, joining and finishing. I can demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and		**Make** products by working efficiently (such as by carefully selecting materials). I can apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). I can select appropriate joining techniques/		**Make** show design processes such as prototypes, cross-sectional diagrams and CAD. I can cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).

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		curling). I can make a structure or mechanism using different materials.		resources. I can use a broad range of both traditional and modern materials, including smart materials.		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).
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
ELG They handle equipment and tools effectively, including pencils for writing. I can use a dominant hand with confidence and control.		**Evaluate** their ideas and products against design criteria 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		**Evaluate** continually evaluating the product design showing technical knowledge. I can discuss the effectiveness of the design decisions made in existing products. I understand the importance of recycle, re-use and reducing waste.		**Evaluate** by analysing the product design showing technical knowledge. 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.

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		are made from. I know what I like and dislike about products.				

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
(see Technology)		Mechanics		Mechanics		Mechanics
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
		Design products that have a definite function for a particular person. Children should be given the 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		**Design** Investigate and analyse a range of existing products. Children should apply understanding of forces to select a 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,		**Design** by considering the user, prioritising good function. Children should combine electronics and mechanics to 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.

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		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.		continually evaluating the product design	
A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2	A1 A2 S1 S2 S1 S2
		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.		**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.

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												I can select from and use a range of tools and equipment to perform practical tasks eg cutting, shaping, joining and finishing. I can make a structure or mechanism using different materials.																							
A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2	A1	A2	S1	S2	S1	S2
												Evaluate their ideas and products against design criteria 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.												**Evaluate** continually evaluating the product design showing technical knowledge. I know how mechanical systems such as levers and linkages or pneumatic systems create movement.												**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 to program a computer to monitor changes in the environment and control my products.					

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