AAT Design and Technology Progression

Terms 1/2		A Toy Story	Pudding to Pepys	Changing Ages	Walk like an Egyptian	We'll Meet Again	Who let the Gods out?
	YR	Y1	Y2	Y3	Y4	Y5	Y6
Media Focus	Structures and Textiles	Food Technology	Structures	Textiles	Food Technology	Structures	Food Technology
Design and Make Task		Fruit/vegetables	Create a building	2D shape to 3D product	Seasonal foods	Shelters	
Design and Make		**Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and, where appropriate, ICT** Draw pictures to show my design Talk about my design **Select from and use a wide range of materials and components** Combine different ingredients to make a product **Select from and use a range of tools and equipment to perform practical tasks** Use cooking equipment appropriate to the task	**Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and, where appropriate, ICT** State what the product they are designing and making is Say who the user of the product is **Select from and use a range of tools and equipment to perform practical tasks** Use scissors safely Join materials in different ways **Select from and use a wide range of materials and components** Measure my components	**Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups** Consider what would make a product appealing to an audience Design a product that fits the given criteria **Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Communicate my ideas through labelled drawings Create a pattern **Select from and use a wider range of materials and components including textiles, according to their functional properties and aesthetic qualities** Consider which materials would be best Use appropriate fixings for joining textiles including gluing and stitching	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create annotated sketches of their designs Make design decisions taking in to account the availability of products Generate realistic ideas, focusing on the needs of the user **Select from and use a wider range of tools and equipment to perform practical tasks accurately** Use scales to weigh ingredients Chose which technique and equipment I require	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create prototypes using card to investigate structures and strengthening of products Sketch a design to share with others **Select from and use a wider range of materials and components including construction materials, textiles according to their functional properties and aesthetic qualities** Measure, mark out and cut materials with increasing accuracy Assemble join and combine material with increasing accuracy Apply finishing techniques, including those from art and design accuracy	**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** Produce procedures for safety and hygiene Select from a range of ingredients for both their flavour and aesthetic properties Plan the stages of production considering time constraints and available resources

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Evaluate		**Evaluate their ideas and products against the design criteria** Talk about their design linking to design criteria statements Make simple judgements about their product	**Explore and evaluate a range of existing products** Explain what the product is made from and how it works Give reasons why a product is make in a particular way or has particular features	**Investigate and analyse a range of existing products** Explain who made a product, where and how they were made Explain whether products can be recycled or reused **Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Refer to the design criteria when evaluating	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Refer to the design criteria when evaluating Identify strengths and areas of development in their own product **Understand how key events and individuals in design and technology have helped shape the world** Research chefs and how their food influences cooking trends	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Critically evaluate their product for quality and fitness for purpose including functionality and aesthetics	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Critically evaluate their product for quality and fitness for purpose including taste and look of the product
Technical Knowledge/ Cooking and nutrition		**<u>Cooking and nutrition</u>** **Use the basic principles of a healthy and varied diet to prepare dishes** Know and use some basic hygiene strategies Name and sort into the 5 food groups Know that people should eat 5 portions of fruits and veg a day **Understand where food comes from** Know all food comes from plants or animals Know food has to be farm, grown or caught	**Build structures, exploring how they can be made stronger, stiffer and more stable** Show how a free standing product can be made more stable Know some materials that can make a resources stronger or stiffer	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures** Consider how stitching and line fabrics can improve their structure Understand that a 2D pattern can be used to make a 3D product	**<u>Cooking and nutrition</u>** **Understand and apply the principles of a healthy and varied diet** Know energy comes from the food we eat **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques** Follow safety and hygiene procedures **Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed** Know what 'in season' refers to Identify foods that are 'in season'	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures** Understand that mixing materials can change the materials characteristics Understand that materials can have functional and aesthetic properties Know how to reinforce and strengthen 3D frameworks	**<u>Cooking and nutrition</u>** **Understand and apply the principles of a healthy and varied diet** Know a healthy diet is made up of a variety and balance of different food and drink **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques** Know how to prepare food safely and hygienically Understand how to use a heat source appropriately Know that a recipe can be adapted by adding or substituting one or more ingredients **Understand seasonality and know where and how a variety of**

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					Understand that 'in season' refers to crops and animals Understand what it means for food to be grown, reared and caught		**ingredients are grown, reared, caught and processed** Understand that different food and drink contain different substances- nutrients, water and fibre- that are required for health
Key concepts							
Creativity and Imagination Problem solving Innovation	Show imagination in their responses Know and understand the word problem and what happens when we encounter one Make a simple change to an existing product	Respond creatively and imaginatively to a simple design brief or problem Make a simple change to an existing product, with reasoning	Consider the problem to solve and generate a solution Understand the meaning of 'innovation' within design and technology and show this in their designs	Demonstrate some originality when designing and making Evaluate existing products and make changes to improve their functionality; purpose or look	Demonstrate originality that considers creative solutions when designing and making Evaluate existing products and make changes to improve their functionality; purpose or look, giving reasons for the changes	Explore how to take creative risks when responding imaginatively to a design brief or problem Understand how innovation is an important part of the process of designing and making products Make changes and developments to products that they design	Show how to take creative risks when responding imaginatively to a design brief or problem Investigate possible problems to solve, selecting which to focus on. Make changes and improvements throughout their process

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Terms 3/ 4		Amazing Discoveries	Under the Microscope	When in Rome	Raiders and Traders	Rainforest Realms	Earth and Space, the final frontier
	YR	Y1	Y2	Y3	Y4	Y5	Y6
Media Focus	Food	Mechanisms	Mechanisms	Food Technology	Electrical systems	Mechanical Systems	Structures and Electrical Systems
Design and Make Task		Paper mechanisms	Wheels and axles	Sandwiches (savoury)	Circuits and switches (light)	Cam Toys	Motorised vehicle
Design and Make		**Design purposeful, functional, appealing products for themselves and other users based on design criteria** Work confidently within a range of contexts State what product they are designing and making **Select from and use a range of tools and equipment to perform practical tasks** Use scissors and hold punches safely, with support **Select from and use a wide range of materials and components** Identify which material would work best for each aspect of their design from a choice of two	**Design purposeful, functional, appealing products for themselves and other users based on design criteria** Work confidently within a range of contexts State what product they are designing and making Explain the intended user **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and, where appropriate, ICT** Use their own experiences to create design drawings Use what they know about existing products to help them come up with ideas **Select from and use a range of tools and equipment to perform practical tasks** Use cutting equipment appropriate for the material being cut	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create drawings of my design **Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups** Consider what would make a product visually and flavour appealing to an audience Design a product that fits the criteria **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** Follow procedures for safety and hygiene Select from a range of ingredients Plan the stages of production, appropriately	**Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups** Gather then needs of the intended user Generate their own design criteria Consider a reason that would make a product appealing to an specified audience **Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create exploded diagrams of the product Share ideas through discussion	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create annotated sketches and prototypes of their designs Make design decisions taking in to account the availability of products, time constraints and cost Generate realistic ideas, focusing on the needs of the user **Select from and use a wider range of tools and equipment to perform practical tasks accurately** Measure, mark out and cut materials Assemble, join and combine material considering their functional properties and aesthetic qualities Create a step by step guide to the making process	**Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups** Consider several reasons that would make a product appealing to an specified audience Produce a design specification for a product based on the target audience and functionality Design products that fit their own design specification **Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Produce an exploded diagram of their design Draw an accurate circuit diagram for the electrical component of their product

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Evaluate		**Explore and evaluate a range of existing products** Explain who the product is for and why it has been made Describe how the product works	**Evaluate their ideas and products against the design criteria** Talk about their design using technical vocabulary Make simple judgements about their product against the design criteria	**Investigate and analyse a range of existing products** Explain how something is made Discuss why the ingredients have been chosen Consider the taste and the look of foods **Understand how key events and individuals in design and technology have helped shape the world** Research a key manufacturing process and how it has changed over time (eg. Process of baking bread)	**Investigate and analyse a range of existing products** Investigate how well the products have been made Describe how the products meet user needs and wants **Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Refer to the design criteria when evaluating **Understand how key events and individuals in design and technology have helped shape the world** Research a key figure related to their product considering their contribution to design and technology	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Refer to the design criteria when evaluating Identify several strengths and areas of development in their own product Consider how sustainable the materials in the product are	**Investigate and analyse a range of existing products** Look at the functionality of existing products, identifying key features to use in their own designs Refer to the design specification when evaluating **Understand how key events and individuals in design and technology have helped shape the world** Research a key designer, inventor or engineer who helped develop a product that is ground breaking and consider their impact on a significant event in history (eg. moon landing/ Mars expeditions)
Technical Knowledge/ Cooking and nutrition		**Explore and use mechanisms in their products** Explain how a basic lever and slider work	**Explore and use mechanisms in their products** Know that a wheel and axle is a mechanism Explain how the mechanism works Know that something has to happen to create movement Create a working wheels and axle mechanism	**<u>Cooking and nutrition</u>** **Understand and apply the principles of a healthy and varied diet** Know a healthy diet is made up of a variety and balance of different food and drink **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques** Know how to prepare food hygienically Understand how to cut, mix, knead, spread and bake, safely **Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed**	**Understand and use electrical systems in their products (eg. series circuits incorporating switches, bulbs, buzzers and motors)** Explain how simple circuits and components can be used to create functional products Explain how a switch can be made	**Understand and use mechanical systems in their products (eg. Gears, pulleys, cams, levers and linkages)** Use mathematics and scientific understanding to support making their product Know that a mechanism has an input, process and output Know that mechanical systems such cams or pulleys or gears create movement **Apply their understanding of computing to**	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures** Understand how to strengthen a 3D framework **Understand and use electrical systems in their products (eg. Series circuits incorporating switches, bulbs, buzzers and motors)** Explain how more complex electrical circuits and components can be used to create functional products Explain how electrical circuits can be used with mechanisms to make movement

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				Know that ingredients can be fresh, pre-cooked and processed		**program, monitor and control their products** Show how to program a computer to monitor changes in the environment and control their products	
Key concepts							
Creativity and Imagination Problem solving Innovation	Show imagination in their responses Know and understand the word problem and what happens when we encounter one Make a simple change to an existing product	Respond creatively and imaginatively to a simple design brief or problem Make a simple change to an existing product, with reasoning	Respond creatively and imaginatively to a simple design brief or problem, considering reasons for their design Consider the problem to solve and generate a solution	Demonstrate some originality when designing and making Evaluate existing products and make changes to improve their functionality; purpose or look	Consider the problem to solve and generate more than one solution, explain why one is better than the other Evaluate existing products and make changes to improve their functionality; purpose or look, giving reasons for the changes	Explore how to take creative risks when responding imaginatively to a design brief or problem Understand how innovation is an important part of the process of designing and making products Make changes and developments to products that they design	Show how to take creative risks when responding imaginatively to a design brief or problem Investigate possible problems to solve, selecting which to focus on. Display innovation as an important part of their designing and making process.

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Terms 5/6		**Who's the King of the Castle?**	**War and Peace**	**Postcards from the Seaside**	**Tudor Rose**	**Brilliant Building and Lovely Landscapes**	**It's a Smugglers Life for me**
	YR	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
Media Focus		**Textiles**	**Food Technology**	**Mechanical Systems**	**Structures**	**Food Technology**	**Textiles**
Design and Make Task		**Puppets**	**Pizza (other savoury cooked item)**	**Pneumatics**	**Shell structures (packaging)**	**British Food**	**Practical textiles (bag)**
Design and Make		**Design purposeful, functional, appealing products for themselves and other users based on design criteria** State what the product they are designing and making is Describe what their product is for **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and, where appropriate, ICT** Use their knowledge of an existing product to come up with their ideas Create a drawing of their product. Labelling the drawing appropriately **Select from and use a range of tools and equipment to perform practical tasks** Create a stitch on binca Use a blunt needle	**Design purposeful, functional, appealing products for themselves and other users based on design criteria** My design drawing shows my product and the ingredients Identify the user **Select from and use a wide range of materials and components** Combine different ingredients to make a savoury product **Select from and use a range of tools and equipment to perform practical tasks** Select from a choice of two things the cooking equipment appropriate to the task	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create exploded diagrams of their designs **Select from and use a wider range of tools and equipment to perform practical tasks accurately** Measure, mark out and cut materials with increasing accuracy Assemble join and combine material with increasing accuracy	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Create prototypes using card to investigate structures and strengthening of products Sketch a design to share with others **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** Measure, mark out and cut materials with increasing accuracy Assemble join and combine material with increasing accuracy Apply finishing techniques, including those from art and design with increasing accuracy	**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** Follow and adapt procedures for safety and hygiene Select from a range of ingredients for their flavour Plan the stages of production considering available resources	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design** Show my design to others through drawing and labelling **Select from and use a wider range of tools and equipment to perform practical tasks accurately** Use stitching, cutting, fixing and finishing appropriate for the materials they are using Finish products to a high standard **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** Consider which materials would be best to create their design considering both aesthetic properties and functionality

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Evaluate		**Evaluate their ideas and products against the design criteria** Talk about their design Make simple judgements about their product	**Explore and evaluate a range of existing products** Explain what they like and dislike about the product Make changes to a product to improve it	**Investigate and analyse a range of existing products** Explain who made a product, where and how they were made Consider how well the product is made and why materials have been selected **Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Refer to the design criteria when evaluating Identify one strength and one area of development in their own product	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Refer to the design criteria when evaluating Identify strengths and areas of development in their own product	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Critically evaluate their product for quality and fitness for purpose including taste of the product **Understand how key events and individuals in design and technology have helped shape the world** Research a key chef/s who helped develop a recipes/ food types that were ground breaking in their field	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work** Collect the views of other on their product Record their own views of their product against the design specification Consider what they would change if they were approaching the design brief again
Technical Knowledge			**<u>Cooking and nutrition</u>** **Use the basic principles of a healthy and varied diet to prepare dishes** Know and use some basic hygiene strategies Name and sort into the 5 food groups Know that people should eat 5 portions of fruits and veg a day **Understand where food comes from** Know all food comes from plants or animals Know food has to be farm, grown or caught	**Understand and use mechanical systems in their products (eg. Gears, pulleys, cams, levers and linkages)** Use mathematics to support making their product Know that a mechanism has an input, process and output Know that mechanical systems such as lever and linkages or pneumatic systems create movement	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures** Understand that mixing materials can change the materials characteristics Understand that materials can have functional and aesthetic properties Know how to make strong stiff frames	**<u>Cooking and nutrition</u>** **Understand and apply the principles of a healthy and varied diet** Understand that different foods contain different substances- nutrients, water and fibre- that are needed for health **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques** Know how to prepare food hygienically and safely when using a heat source Know recipes can be adapted to change the appearance, taste, texture and aroma	

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						Understand seasonality and know where and how a variety of ingredients ae grown, reared, caught and processed Understand that the seasons affect the food available Know how food is processed into ingredients that can be eaten Know that a recipe can be adapted by adding or substituting one or more ingredients	
Key Concepts							
Creativity and Imagination Problem solving Innovation	Show imagination in their responses Know and understand the word problem and what happens when we encounter one Make a simple change to an existing product	Respond creatively and imaginatively to a simple design brief or problem Understand that there is a problem to be solved	Respond creatively and imaginatively to a simple design brief or problem, considering reasons for their design Understand the meaning of 'innovation' within design and technology and show this in their designs	Demonstrate some originality when designing and making Evaluate existing products and make changes to improve their functionality; purpose or look	Demonstrate originality that considers creative solutions when designing and making Consider the problem to solve and generate more than one solution, explain why one is better than the other	Explore how to take creative risks when responding imaginatively to a design brief or problem Investigate possible problems to solve and generate more than one solution, explain why one is better than the other	Investigate possible problems to solve, selecting which to focus on. Display innovation as an important part of their designing and making process. Make changes and improvements throughout their process