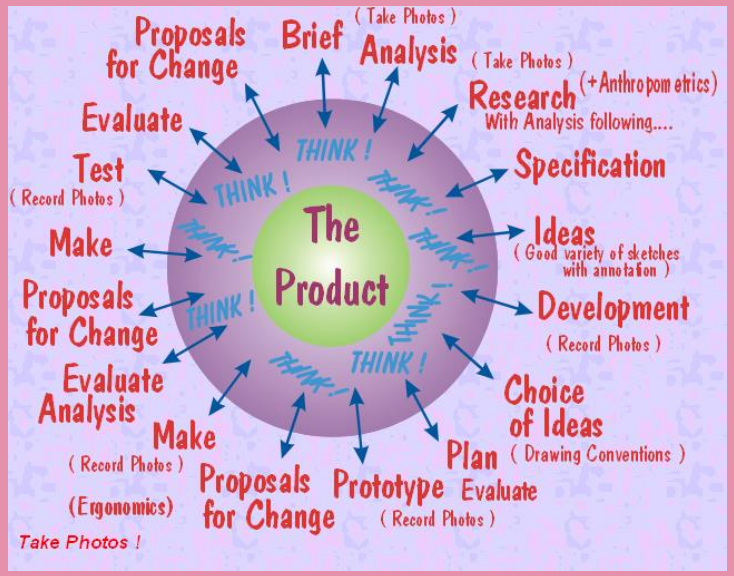
Curriculum Skills and Progression Map
Design Technology



Nebula
where stars are born

The Nebula Federation

Horsford CE VA Primary School

DESIGN TECHNOLOGY: AGE RELATED STATUTORY COVERAGE		
EYFS	**KEY STAGE ONE LEARNING**	**KEY STAGE TWO LEARNING**
• Understands that media can be combined to create new effects. • Constructs with a purpose in mind, using a variety of resources. • Uses simple tools and techniques competently and appropriately. • Selects appropriate resources and adapts work where necessary. • Selects tools and techniques needed to shape, assemble and join materials they are using. • Children safely use and explore a variety of materials, tools and techniques, experimenting with design, form and function. • Create simple representations of objects. • Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. **DESIGN AND DEVELOP** • Talk about what they want to make **MAKING** • Use a variety of tools and materials to make models. **PRODUCT AND EVALUATION** • Be excited about what they have made	**DESIGN** • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT 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, ingredients according to their characteristics **EVALUATE** • Explore and evaluate a range of existing products • Evaluate 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. **COOKING AND NUTRITION** • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate 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. **EVALUATE** • Investigate and analyse a range of existing products • Evaluate ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals have helped shape the world **TECHNICAL** • 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 products. **COOKING AND NUTRITION** • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

DESIGN TECHNOLOGY: VOCABULARY MAP				
	Design and Develop	**Making**	**Product**	**Evaluation**
EYFS	• Plan • Draw • Ideas • Design	• Make • Build • Combine • Join • Shape • Tools	• Complete • Product • Final	• Change • Like • Dislike • Next time • Better • Worse • Different • Instead

DESIGN TECHNOLOGY: VOCABULARY MAP				
	Design	**Technical Knowledge & Making**	**Cooking and Nutrition**	**Evaluate**
KS1	• Plan • Prepare • Design • Materials • Ideas • Use • Model • Development • Market Research • Survey • Template	• Fast • Slow • Faster • Slower • Up • Down • Turn • Wind up • Design • Draw • Sketch • Tools • Fix • Glue • Attach • Features • Brick • Wood • Stone • Cloth • Metal • Foam • Felt • Paper • Tissue • Newspaper • Cardboard • String • Wool • Clay • Scissors • Glue • Tape • Cut • Stick • Decorate	• Healthy • Unhealthy • Source • Fruit • Vegetables • Clean • Safe • Dirty • Unsafe • Amount • Ingredients • Recipe • Weight • Nutrients • Vegetarian • Dietary requirements	• Change • Improve • Prefer • Useful • Unsuccessful • Future • Progress • modify • Alter • Adapt • Original • Finished article • Evaluate • Graphics
KS2	• Plan • Organise • Prototype • Initial ideas • Criteria • Diagrams • Labels • Annotate • Brief • Product • Consumer • Customer • Target audience • Purpose • Application • Constraints • Client	• Materials • Mould • Liquid • Solid • Form • Shape • Adhesive • Lattice • Mass-produce • Hand-made • Packaging • Presentation • Machine made • Dimensions • Durable	• Healthy • Unhealthy • Balanced • Vitamins • Disease • Nutrition • Healthy eating • Hygiene • Diet • Cross contamination • Grams • Storage • Presentation • Taste • Texture • Flavour • Disinfect • Bacteria	• Assess • Edit • Improve • Alter • Outcome • Develop • Test • Analyse • Effective • Fit for purpose • Design criteria • Alternatives • Models • Quality • Function • Functionality

	Year 1	Year 2
Examples of Deeper Thinking Questions	• What would you change about your design? • How could you make your design faster/stronger etc? • What do you like about someone else's design? • What would happen if you changed….?	• What could you do to make your design better? • Find one thing that is better about someone else's design. • How would you help someone who wanted to make their own…? • What is the best/worst thing about your design?
Cross-Curricular Links	**Cycle 1:** • Au1: Wolf Trap – Science (materials), English (Three Little Pigs), Geography (fairy tale map drawing) • Sp1: Make a Cape – Science (superhero bodies), English (superhero stories), History (superhero story – Edith Cavell) • Su1: Make a Treasure Chest – English (pirate stories), History (shipwreck – Henry Blogg) • Su2: Cooking and nutrition – Maths (measurement) **Cycle 2:** • Au1: Tea Party – English (Fairy Tales) • Sp2: Rocket Crawler –English (Stargazing), Science (rockets), History (moon landing) • Su1: Design and make a boat – Geography (where the boat could sail to)	
Suggested Writing Opportunities	All DT topics can include writing for planning, designing and evaluating. **Cycle 1:** • Au1: Wolf Trap – instructions for building a wolf trap, Designing & Evaluating. • Sp1: Make a cape – English (description of cape, stories with capes), Designing & Evaluating. • Su1: Make a Treasure Chest – English (pirate stories), Designing & Evaluating. • Su2: Cooking and nutrition –writing recipes, Designing & Evaluating. **Cycle 2:** • Au1: Tea Party – recipe writing, Designing & Evaluating. • Sp2: Rocket Crawler – space stories, Designing & Evaluating. Su1: Design and make a boat – Designing & Evaluating, stories about boats.	

	Years 3 & 4		Years 5 & 6	
Examples of Deeper	**Year 3** • What could you change to improve your design? • What made creating your design difficult? • What questions would you ask if…?	**Year 4** • Explain what you could change and how it would improve your design? • How would you change your design for the 'real world'? • How effective at…. Is your…?	**Year 5** • How could you make your design more suited to mass production? • What developments would need to be made for your design to….? • What tests would you need to do to…?	**Year 6** • What would you need to change to be able to sell your design? • How could you adapt… to make…? • What do you predict would happen if…? • Judge whether…. would cause/change/affect….
Cross-Curricular Links	**Cycle 1:** • Au1: Cooking a locally sourced meal – Geography (where does our food come from?), Science (Healthy Eating) • Sp2: Stone Age tool/jewellery – History (the Stone Age), Science (Rocks and fossils), English Y4 (Ug: Boy Genius of the Stone Age). • Su2: Cooking (Great bread Bake Off) – Geography (earning a living), Maths (measures) **Cycle 2:** • Au2: Christmas crafts and pop-up books • Sp2: Cereal Bars with raisins – History (Anglo-Saxons) • Su2: Roman Catapults – History (Romans)		**Cycle 1:** • Sp1&2: Structures – Geography (North and South America) • Su1: Creating a healthy, locally sourced meal – Science (the human body), Geography (locally sourced food), Maths (measurement) **Cycle 2:** • Au2: WW1 designing a trench – English (War Poets & War Horse), History (WW1), Art (WW1 artists). • Sp2: Cooking different types of bread –English (Historical stories, Anglo-Saxons & Vikings), Science (permanent changes of state), Maths (measurement) • Su1: 3D map of UK/mountain range – English (Foodland), Geography (UK geography)	
Suggested Writing Opportunities	All DT topics can include writing for planning, designing and evaluating. **Cycle 1:** • Au1: Cooking a locally sourced meal – Geography (explanation texts about where food for recipe came from/debate about food sources), Science (explaining and justifying menu choices), Recipe writing • Sp2: Stone Age tool/jewellery – History (the Stone Age), Science (Rocks and fossils), English Y4 (Ug: Boy Genius of the Stone Age). • Su2: Cooking (Great bread Bake Off) – Geography (discussion of how they ensured their product would make a profit), Recipe writing, advertising etc **Cycle 2:** • Au2: Christmas crafts and pop-up books • Sp2: Cereal Bars with raisins – History (Explanation of Anglo-Saxon diets), Recipe writing Su2: Roman Catapults – History (description/explanation of Roman weapons and battles)		All DT topics can include writing for planning, designing and evaluating. **Cycle 1:** • Sp1&2: Structures – English/Geography (description of super-structures) • Su1: Creating a healthy, locally sourced meal – Science (recipes, explaining how it's healthy), Geography (debate about locally sourced food) **Cycle 2:** • Au2: WW1 designing a trench – English/history (descriptions of trenches and life in a trench), History (WW1), Art (WW1 artists). • Sp2: Cooking different types of bread – History (historically accurate recipes) • Su1: 3D map of UK/mountain range – English/Geography (description)	

Skills Map – Design Technology		
Early Years – Design Technology		
Developing, Planning and Communicating Ideas	**Working with tools, equipment, materials and components to make quality products**	**Evaluating processes and products**
DESIGN AND DEVELOP • Talk about what they want to make	**MAKING** • Use a variety of tools and materials to make models.	**PRODUCT AND EVALUATION** • Be excited about what they have made
• Can they make observations about the features of objects? • Can they use their senses to explore and describe objects? • Can they think of some ideas of their own? • Can they plan how best to approach a task?	• Can they explain what they are making? • Can they select appropriate resources and tools? • Can they explain which tools are they using and why? • Can they use tools safely? • Can they use tools to manipulate materials?	• Can they identify success and next steps? • Can they change their strategy as needed?
Design Inquiry		
Design Technology is covered throughout the year through weekly themes taken from the interests of the children. A weekly hook sheet is published, and DT work can be identified on it. Weekly enhanced provision is planned to ensure the children have the opportunity to explore designing and making skills independently throughout the week.		

Skills Map – Design Technology		
Year 1 – Design Technology		
Mechanisms *Cycle 1: A1 – Wolf Trap* *Cycle 2: A2 – Rocket Crawler*	**Construction & Textiles** *Cycle 1: Sp1 – Make a Cape/Su2 – Make a Treasure Chest* *Cycle 2: Sp2 – Make a boat*	**Cooking** *Cycle 1: Su2 – Where food comes from.* *Cycle 2: A1 – Tea Party*
DESIGN • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT and, where appropriate, information and communication technology **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.	**DESIGN** • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT 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**, ingredients according to their characteristics	**DESIGN** • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT and, where appropriate, information and communication technology **COOKING AND NUTRITION** • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from.
• Describe what they want to do using pictures and words • Make lists of materials they will need • Can they think of some ideas of their own? • Can they explain what they are making? • Can they plan an outcome through pictures with labels? • Can they explain their ideas orally? • Can they make a product which moves? • Can they identify the key features of an existing product? • Can they say why they have chosen moving parts? • Do they know how some moving objects work? • Can they use tools safely? • Can they explain which tools are they using and why?	• Describe what they want to do using pictures and words • Make lists of materials they will need • Can they think of some ideas of their own? • Can they explain what they are making? • Can they plan an outcome through pictures with labels? • Can they arrange pieces of the construction before building? • Can they make a structure/model using different materials? • Can they cut materials using scissors or a knife (often with help)? • Can they join two materials together, often with glue. • Make simple models, not necessarily with a purpose • Can they explain which tools are they using and why? • Can they use tools safely? • **Can they select suitable pre-cut fabrics?** • **Can they join textiles together?** • **Can they express preferences when choosing fabrics?**	• Describe what they want to do using pictures and words • Make lists of materials they will need • Can they explain what they are making? • Can they identify healthy and unhealthy meals? • Can they make a meal with a variety of healthy foods in? • Can they understand where food comes from? • Do they now the benefits of fruit and vegetables. • Do they know about basic hygiene and safety
EVALUATE – ALL MODULES		
EVALUATE • Explore and evaluate a range of existing products • Evaluate ideas and products against design criteria	• Can they describe the materials using different words? • Use simple terms to talk about their own and others' work • Can they describe how their product works? • Can they identify success and next steps?	

Skills Map – Design Technology		
Year 2 – Design Technology		
Mechanisms *Cycle 1: A1 – Wolf Trap* *Cycle 2: A2 – Rocket Crawler*	**Construction & Textiles** *Cycle 1: Sp1 – Make a Cape, Su2 – Make a Treasure Chest* *Cycle 2: Sp2 – Make a boat*	**Cooking** *Cycle 1: Su2 – Where food comes from.* *Cycle 2: A1 – Tea Party*
DESIGN • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT and, where appropriate, information and communication technology **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.	**DESIGN** • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT 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**, ingredients according to their characteristics	**COOKING AND NUTRITION** • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from.
• Can they generate ideas through comparing existing products? • Can they describe their design by using pictures, diagrams, and words? • Can they say how the product will be useful to the user? • Can they start to describe how a commercial product works? • Can they choose the most appropriate tools and materials and explain their choices? • Can they follow basic safety rules? • Can they join materials together as part of a moving product? • Can they explain how different parts move? • Can they use wheels, slides and levers in plans? • Can they talk about how moving objects work	• Can they generate ideas through comparing existing products? • Can they describe their design by using pictures, diagrams, and words? • Can they say how the product will be useful to the user? • Can they start to describe how a commercial product works? • Do they use their knowledge of some working characteristics of materials when designing? • Can they select tools for folding, joining, rolling? • Can they join multiple materials together? • Can they use a simple template for cutting out? • Can they use simple finishing techniques? • **Can they measure an amount of a textile and cut it out?** • **Can they join textiles together to make a product, using techniques such as stitching?** • **Can they cut textiles accurately?** • **Can they explain why they chose a certain textile?**	• Can they generate ideas through comparing existing products? • Can they describe their design by using pictures, diagrams, and words? • Can they understand and use the terms ingredient and component? • Can they use simple scales or balances? • Can they understand main rules of food hygiene?

EVALUATE – ALL MODULES	
EVALUATE • Explore and evaluate a range of existing products • Evaluate ideas and products against design criteria	• Can they assess how well their product works? • Can they use like and dislike when evaluating or describing? • Do they recognise what they have done well and talk about what could be improved? • Can they seek out the views and judgements of others? • Can they predict how changes might improve the finished product? • Have they used digital photography to present design or finished work?

Skills Map – Design Technology		
Year 3 – Design Technology		
Mechanisms *Cycle 1: Sp2 – Make Stone Age Tools or Jewellery* *Cycle 2: Sp2 – Roman Catapults*	**Construction & Textiles** *Cycle 1: Sp2 – Make Stone Age Tools or Jewellery* *Cycle 2: A2 – Seasonal Pop-up books*	**Cooking** *Cycle 1: A1 – Creating a Healthy meal/Su2 – Great Bread Bake Off. Cycle 2: Su2 – Cereal Bars*
DESIGN • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **TECHNICAL** • 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 products.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate 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.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **COOKING AND NUTRITION** • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
• Can they plan their design, using diagrams and labels? • Can they plan the equipment/ tools needed and give reasons why? • Can they start to order the main stages of making their product? • Can they identify a design criteria and establish a purpose/ audience for their product? • Can they use what they know about the properties of materials to plan their ideas? • Can they make increasing use of ICT to plan ideas? • Do they recognise that designs must meet a range of needs? • Apply what they know about mechanisms to create movement when planning and designing? • Can they use equipment and tools accurately and safely? • Can they select the most appropriate materials, tools and techniques to use? • Can they manipulate materials using a range of tools and equipment (often with support)? • Can they measure, cut and assemble with increasing accuracy? • Can they work out how to make models stronger?	• Can they plan their design, using diagrams and labels? • Can they plan the equipment/ tools needed and give reasons why? • Can they start to order the main stages of making their product? • Can they identify design criteria and establish a purpose/ audience for their product? • Can they use what they know about the properties of materials to plan their ideas? • Can they make increasing use of ICT to plan ideas? • Do they recognise that designs must meet a range of needs? • Can they measure and cut out using centimetres? • Can they choose tools and equipment which are appropriate for the job? • Do they prepare for work by assembling components together before joining? • Can they use scoring and folding for precision? • Can they work out how to make models stronger?	• Can they plan their design, using diagrams and labels? • Can they plan the equipment/ tools needed and give reasons why? • Can they use what they know about the properties of materials to plan their ideas? • Can they begin to select their own ingredients when cooking or baking? • Can they present food in an appealing way? • Do they understand safe food storage? • Can they weigh in grams?

• Can they make a product which uses mechanical components? • Can they use a range of components (e.g. levers, linkages and pneumatic systems)?	• Can they alter and adapt materials to make them stronger? • Can they combine a number of components together in different ways? • Do they make the finished product neat and tidy? • Can they use a range of techniques to shape and mould materials? • **Can they join textiles of different types in a range of ways?** • **Can they choose textiles both for their appearance and also qualities?** • **Can they begin to use a range of simple stitches?**	
EVALUATE – ALL MODULES		
EVALUATE • Investigate and analyse a range of existing products • Evaluate ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals have helped shape the world	• Can they start to think about their ideas as they make progress? • Are they willing to make changes if this helps them to improve their work? • Can they assess how well their product works in relation to the purpose? • Can they explain how they could change their design to make it better? • Can alter and adapt original plans following discussion and evaluation? • Can they recognise what has gone well, but suggest further improvements for the finished article? •	
COMPUTER-AIDED DESIGN		
DESIGN • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and **computer-aided design**	• With support, can they use IT to research and plan their design? • With support, can they use digital photography to present, design or finish work?	

Skills Map – Design Technology		
Year 4 – Design Technology		
Mechanisms *Cycle 1: Sp2 – Make Stone Age Tools or Jewellery* *Cycle 2: Sp2 – Roman Catapults/Sp2 – Electricity (in Science)*	**Construction & Textiles** *Cycle 1: Sp2 – Make Stone Age Tools or Jewellery* *Cycle 2: A2 – Seasonal Pop-up books*	**Cooking** *Cycle 1: A1 – Creating a Healthy meal/Su2 – Great Bread Bake Off. Cycle 2: Su2 – Cereal Bars*
DESIGN • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **TECHNICAL** • 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 products.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate 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.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **COOKING AND NUTRITION** • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
• Can they create a final design for their product based on initial ideas and revisions, based on existing ideas? • Can they create a detailed plan considering their target audience, design criteria and intended purpose? • Can they collect and use information to generate ideas? • Can they consider the way the product will be used when planning? • Do they understand designs must meet a range of criteria? • Can they make ongoing sketches and annotations and constraints? • Can they think ahead about the order of their work? • Can they use a simple circuit and add components to it? • Can they add electricity to create motion or make light? • Can they make a product which uses both electrical and mechanical components? • Do they understand how some properties can be used – e.g. waterproof? • Can they select and use appropriate equipment and tools accurately and safely?	• Can they create a final design for their product based on initial ideas and revisions, based on existing ideas? • Can they create a detailed plan considering their target audience, design criteria and intended purpose? • Can they collect and use information to generate ideas? • Can they consider the way the product will be used when planning? • Do they understand designs must meet a range of criteria? • Can they make ongoing sketches and annotations and constraints? • Can they think ahead about the order of their work? • Can they measure accurately to build effective structures? • Can they experiment with a range of techniques to increase stability in a structure? • Can they use finishing techniques, showing an awareness of audience? (e.g. sanding, varnishing, glazing) • Can they consider which materials are fit for purpose and join them appropriately?	• Can they create a final design for their product based on initial ideas and revisions, based on existing ideas? • Can they collect and use information to generate ideas? • Can they think ahead about the order of their work? • Can they select their own suitable ingredients when cooking or baking? • Do they present food in an appealing way? • Can they understand and explain safe food storage? • Can they evaluate food by taste, texture, flavour etc?

• Can they explain why they have selected materials, tools and techniques to use? • Can they independently manipulate materials using a range of tools and equipment? • Can they measure, cut and assemble with accurately? • Can they make a product which uses mechanical components? • Can they use a range of components (e.g. levers, linkages and pneumatic systems)? • Do they understand how wheels, axles, turning mechanisms, hinges and levers all work together?	• Can they devise a template or pattern for their product? • Can they increasingly model their ideas before making? • Can they measure accurately to centimetres and grams? • Can they use permanent and temporary fastenings to join? • Join with a greater range of techniques – e.g. staples • Strengthen joins and corners in a variety of ways • Can they use equipment and tools with increased accuracy and safety?	
EVALUATE – ALL MODULES		
EVALUATE • Investigate and analyse a range of existing products • Evaluate ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals have helped shape the world	• Can they talk about what they like and dislike, giving reasons? • Can they develop their designs through their own reflection and the evaluation of others? • Can they carry out tests before making improvements? • Can they think about their ideas as they progress and make changes to improve their work? • Can they assess how well their product works in relation to the design criteria and the intended purpose? • Can they explain how they could improve their design and how their improvement would affect the original outcome?	
COMPUTER-AIDED DESIGN		
DESIGN • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and **computer-aided design**	• Can they use IT, independently, to research and plan their design? • Can they use digital photography to present, design or finish work?	

Skills Map – Design Technology		
Year 5 – Design Technology		
Mechanisms *Cycle 1: Sp2 – Sp1&2 – Structures* *Cycle 2:*	**Construction & Textiles** *Cycle 1: A2 – William Morris – printing on fabric* *Cycle 2: A2 – WW1 Shoe-box Trench/Su1 – 3D maps of UK regions*	**Cooking** *Cycle 1: Su1 – Creating a Healthy meal.* *Cycle 2: Sp2 – Different breads and cakes*
DESIGN • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **TECHNICAL** • 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 products.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate 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.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **COOKING AND NUTRITION** • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
• Can they (where relevant) survey their target audience and use this to generate ideas? • Can they take a user's view into account when designing? • Can they produce a detailed step-by-step plan for their design method? • Can they suggest some alternative designs and compare the benefits and drawbacks to inform the design process and outcome? • Can they use sketches to show other ways of doing things – and then make choices between designs? • Can they make up a prototype first? • Can they make more complex designs to include belts and pulleys, and a combination of other mechanisms? • Can they incorporate hydraulics and pneumatics? • Can they make up a prototype first?	• Can they (where relevant) survey their target audience and use this to generate ideas? • Can they take a user's view into account when designing? • Can they produce a detailed step-by-step plan for their design method? • Can they suggest some alternative designs and compare the benefits and drawbacks to inform the design process and outcome? • Can they use sketches to show other ways of doing things – and then make choices between designs? • Can they make up a prototype first? • Can they measure and cut precisely to millimetres? • Can they make stable and strong joins to stand the test of time? • Can they choose appropriate tools and materials to ensure that the final product will appeal to the audience?	• Use proportions when cooking, by doubling and halving recipes • Can they modify a recipe and explain why they have changed it? • Can they meet an identified need – e.g. a meal for an older person – by selecting suitable ingredients? • Can they work in a safe and hygienic way?

	• Can they use a range of tools and equipment with good accuracy and effectiveness, within established safety parameters? • Can they use a range of joining techniques? • Can they demonstrate that their product is strong and fit for purpose? • **Can they consider the audience when choosing textiles?** • **Can they devise a template or pattern for their product?** • **Are their measurements accurate enough to ensure precision?**	

EVALUATE – ALL MODULES	
EVALUATE • Investigate and analyse a range of existing products • Evaluate ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals have helped shape the world	• Can they continuously check that their design is effective and fit for purpose? • Can they assess how well their product works in relation to the design criteria and the intended purpose and suggest improvements? • Can they evaluate appearance and function against the original design criteria? • Can they identify what is working well and what might be improved – and make choices from several alternatives? • Refine the quality of the finished product, including making annotations on the design • Can they increasingly use testing to improve models and finished products? • Can they make improvements from design suggestions? • Are they motivated to refine and further improve their product?
COMPUTING	
DESIGN • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and **computer-aided design**	• Can they use IT to research and evaluate similar products before using this to aid their design process? • Can they use computers to edit and improve their work?

Skills Map – Design Technology		
Year 6 – Design Technology		
Mechanisms *Cycle 1: Sp2 – Sp1&2 – Structures/A1 – electricity (in science)* *Cycle 2:*	**Construction & Textiles** *Cycle 1:* *Cycle 2: A2 – WW1 Shoe-box Trench/Su1 – 3D maps of UK regions*	**Cooking** *Cycle 1: Su1 – Creating a Healthy meal.* *Cycle 2: Sp2 – Different breads and cakes*
DESIGN • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **TECHNICAL** • 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 products.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate 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.	**DESIGN** • Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **COOKING AND NUTRITION** • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
• Can they use a range of information to inform their design? • Can they use market research to inform plans? • Can they work within constraints? • Can they justify their plan to someone else? • Can they keep cost constraints in mind when selecting materials in design? • Do they use their knowledge of science and art when designing? • Can they draw scaled diagrams with increasing use of ratio? • Can they calculate the amount of materials needed use this to estimate cost? • Have they considered the use of the product when selecting materials? • Can they make up a prototype first? • Can they create designs including hydraulics and pneumatics when where appropriate?	• Can they use a range of information to inform their design? • Can they use market research to inform plans? • Can they work within constraints? • Can they justify their plan to someone else? • Can they keep cost constraints in mind when selecting materials in design? • Do they use their knowledge of science and art when designing? • Can they draw scaled diagrams with increasing use of ratio? • Can they calculate the amount of materials needed use this to estimate cost? • Have they considered the use of the product when selecting materials? • Can they measure and cut out in precise detail, and make sure that finished products are carefully finished?	• Can they consider culture and society in their food choices? • Can they keep cost constraints in mind when selecting ingredients? • Can they calculate the amount of ingredients needed use this to estimate cost? • Can they use proportions when cooking extending beyond doubling and halving recipes? • Can they begin to write their own recipes based on recipes they have previously tried? • Can they make choices/changes to recipes and justify their decision?

• Can they use different kinds of circuits in their product to improve it? • Can they incorporate a switch into their product? • Can they incorporate hydraulics and pneumatics?	• Can they make separate elements of a model, with improvements where necessary, before combining into the finished article? • Can they produce a simple instruction manual or handbook for their product? • Can they use a range of joining techniques? • Can they choose appropriate tools and materials to ensure that the final product will appeal to the audience? • Can they use a range of tools and equipment with good accuracy and effectiveness, within established safety parameters? • **Can they consider the audience when choosing textiles?**	
EVALUATE – ALL MODULES		
EVALUATE • Investigate and analyse a range of existing products • Evaluate ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals have helped shape the world	• How well do they test and evaluate their final product? • Can they assess and explain whether it is fit for purpose? • Can they describe and explain what would improve it and why? • Can they discuss whether different resources have improved their product? • Can they explain if they need more or different information to make it even better? • Can they test and evaluate commercial products, understanding how this information supports their own designs? • Can they evaluate a range of different sources of information such as advertising and handbooks? • Can they demonstrate that their product is strong and fit for purpose? • Are they motivated to refine and further improve their product	
COMPUTER-AIDED DESIGN		
DESIGN • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and **computer-aided design**	• Can they research products online? • Can they create a survey on the computer to research their product?	

Design Technology Long Term Plan

Key Stage One

Years 1 and 2

Cycle One		Cycle Two	
Term/Theme enrichment	**Coverage – see skills map**	**Term/Theme enrichment**	**Coverage – see skills map**
A1: Wolf Trap	Mechanisms	A1: Tea Party	Cooking and Nutrition
A2: The Great Fire Of London Fire Pictures	Art Focus	A2: Rocket crawler	Mechanisms
Sp1: How to be a Superhero/Make a cape	Construction and Textiles	Sp1: Dear Zoo Animal patterns	Art Focus
Sp2: Mad about Minibeasts Minibeast Patterns	Art Focus	Sp2: Make a boat	Construction and Textiles
Su1: Make a treasure chest	Construction and Textiles	Su1: How to catch a Dragon Dragon sculpture	Art Focus
Su2: Where food comes from	Cooking and Nutrition	Su2: At the Beach Seaside art	Art Focus

Design Technology Long Term Plan

Art and Design Lower Key Stage Two

Years 3 and 4

Cycle One		Cycle Two	
Term/Theme enrichment	**Coverage – see skills map**	**Term/Theme enrichment**	**Coverage – see skills map**
A1: Creating a healthy meal	Cooking and Nutrition	A1: Greek Pottery	Art Focus
A2: Andy Warhol inspired Christmas cards	Art Focus	A2: Autumn Crafts/seasonal Popup books	Construction and Textiles
Sp1: European Art and Artists	Art Focus	Sp1: Anglo-Saxon shields Designing and creating shields	Art Focus
Sp2: Stone Age Tools Jewellery	Mechanisms Construction and Textiles	Sp2: Cereal bars with raisins	Cooking and Nutrition
Su1: Plants and Flowers	Art Focus	Su1: Portraits	Art Focus
Su2: The Great Bread Bake Off	Cooking and Nutrition	Su2: Roman Catapults	Mechanisms

Design Technology Long Term Plan

Upper Key Stage Two

Years 5 and 6

Cycle One		Cycle two	
Term/Theme Enrichment	**Coverage – see skills map**	**Term/Theme Enrichment**	**Coverage – see skills map**
A1: Victorian Britain William Morris	Art Focus	A1: Rainforests Painting/printing leaves Rousseau	Art Focus
A2: Victorian Britain William Morris – printing on fabric	Construction and Textiles	A2: WW1 Shoebox Trench	Construction and Textiles
Sp1: Structures	Mechanisms	Sp1: Peter Thorpe – making space art	Art Focus
Sp1: Structures	Mechanisms	Sp2: Vikings and Anglo Saxons Cooking Bread	Cooking and Nutrition
Su1: Creating a healthy meal	Cooking and Nutrition	Su1: Floodland 3D map of region of UK	Construction and Textiles
Su2: Mayan Art	Art Focus	Su2: Egyptians Scaled drawings of tombs	Art Focus