Design Technology

EYFS

Skills

DESIGN - Developing, Planning and Communicating Ideas	MAKE - Working with tools, equipment, materials and components to make quality products	EVALUATE - Be excited about what they have made
• Talk about what they want to make • Understand who the product is for • Create a simple design using pictures and labels (annotated if needed)	• Use a variety of small tools (scissors, paintbrushes, rollers and cutlery) • Understand how to use and transport simple tools safely (e.g. carry scissors around the room) • Explore a range of materials and begin to discuss their function • Experiment with colour and texture • Demonstrate basic hygiene when using food	•Share their product in either a small group or a whole class •Discuss what they have made and how they made it •As a group/discuss how improvements can be made next time •Make simple recordings of evaluations (annotations of photos, adults recordings of children's talk, simple sentences)

Assessment for learning

•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 talk about their creation? •Can they talk about how they made it? •Can they identify success and next steps? •Can they change their strategy as needed?

Key Vocabulary

• Plan • Draw • Design • Label • Materials • Product	• Join • Glue / stick • Build/ construct • Cut, chop, spread • Materials (inc: paper, card, fabric, etc) • Tools	• Change • Better • Worse • Like • Dislike • Next time • Evaluate

Design Technology

Year One		
Construction	**Textiles**	**Cooking and nutrition**
DESIGN • Design purposeful, functional products based on a class design criteria • Generate, develop, model and communicate their ideas through talking, drawing, mock-ups and ICT and, where appropriate MAKE • Use simple tools to cut • Fold, roll and mould materials to create the product TECHNICAL KNOWLEDGE • Build structures, exploring how they can be made stronger, stiffer and more stable	DESIGN • Design a functional, appealing product based on a class design criteria • Generate and develop their ideas through talking and drawing. MAKE • Use a range of tools including scissors, thread, glue to join materials • Select from a wide range of materials based on their appropriateness for the task	DESIGN • Design an appealing product based on a class design criteria • Generate, develop and communicate their ideas through talking and drawing. MAKE • Use a range of tools to spread, cut and grate •Understand and demonstrate how to use tools safely COOKING AND NUTRITION • Understand the basic principles of cleanliness when preparing food • understand where food comes from
Evaluate		
• Explore and evaluate a range of existing products • Evaluate their product against the design criteria • Describe how they can improve their product		
Assessment for learning		
•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 identify the key features of an existing product? •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 say how they will make it? • Can they cut materials using scissors (often with help)? • Can they join two materials together, often with glue. • 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 and the purpose? • Can they identify healthy and unhealthy meals? • Can they understand where food comes from? • Do they now the benefits of fruit and vegetables. • Do they know about basic hygiene and safety when preparing food?

Design Technology

Key Vocabulary		
• Plan • Design • Materials • Ideas • Draw • Paper • Roll • Fold • Reinforce • Scissors • Glue • Evaluate • Improve	• Plan • Design • Research • Join • Materials • Assemble • Fabrics • Textiles • Select • Glue • Thread • Evaluate • Improve	• Healthy • Unhealthy • Cut • Grate • Chop • Spread • Knife • Safe • Hands • Wash • Soap • Water • Hygiene

Design Technology

Year Two		
Construction	**Textiles**	**Cooking and nutrition**
DESIGN • Design purposeful, functional products based on a class design criteria (generated by children) • Generate, develop, model and communicate their ideas through talking, drawing and ICT where appropriate MAKE • Use tools safely to cut and shape materials (scissors and saws) • Use a range of techniques to join materials (tape, glue, blu-tack, elastic bands, hot glue gun) MECHANISMS • Explore and use mechanisms in their products (wheels and axles)	DESIGN • Design a functional, appealing product based on a class design criteria (generated by the children) • Generate and develop their ideas through talking and drawing. MAKE • Use a range of tools including scissors, needle, thread and glue to join materials • Select from a wide range of materials based on their appropriateness for the task	DESIGN • Design an appealing product based on a class design criteria (generated by the children) • Generate, develop and communicate their ideas through talking and drawing. MAKE • Use a range of tools to chop, mix, spread, grate etc •Understand and demonstrate how to use tools safely COOKING AND NUTRITION • Understand the basic principles of cleanliness when preparing food • Understand where food comes from •Demonstrate the value of a varied diet
Evaluate		
• Explore and evaluate a range of existing products • Evaluate their product against the design criteria • Describe how they can improve their product • Discuss more suitable materials for future products		
Assessment for learning		
•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 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 and joining?	• 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?

Design Technology

• Can they join materials together as part of a moving product? • Can they explain how different parts move? • Can they use wheels and axels in plans? • Can they talk about how moving objects work	• 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?	
Key Vocabulary		
• Design • Plan • Success • Market research • Materials • Join • Axel • Wheel • Scissors • Glue • Blu tack • Tape (making and Sellotape) • Hot glue • Safety • Saw • Purpose • Evaluate	• Design • Plan • Ideas • Materials • Textiles • Wool • Cotton • Nylon • Fleece • Thread • Needle • Evaluate • Improve	• Healthy • Unhealthy • Nutrition • Balanced diet • Spread • Cut • Grate • Mix • Knife, spoon • Hygiene • Wash • Soap • Water • Cleanliness • Evaluate

Year Three

Construction Inc. Mechanisms	Textiles	Cooking and nutrition
DESIGN • Use research and develop a criteria to inform the design of an innovative, functional and appealing product. •Identify who the product is for and ensure it is fit for purpose • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, •Create prototypes, pattern pieces and/or computer-aided design MAKE •Use a wide range of tools to cut, shape and join materials • Select materials based on their aesthetic and functional qualities 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]	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 (fabric scissors, needle, thread) • Select textiles and materials that are most suited to the product •Use a range of finishing techniques to ensure the product is aesthetically pleasing •Can use a simple stitching technique (e.g. running stitch or cross stitch)	DESIGN • Develop own design criteria highlighting the purpose and audience for the product •Generate, discuss and share ideas as a whole class •Produce a design to communicate ideas 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 which products are available when

Evaluate

- Investigate and analyse a range of existing products
- Evaluate ideas and products against their own design criteria
- Consider the views of others to improve their work and record
- • Understand how key events and individuals have helped shape the world of DT

Assessment for learning

Design Technology

• 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 start to order the main stages of making their product? • Can they use what they know about the properties of materials to plan their ideas? • 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 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 some simple stitches?	• 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?
Key Vocabulary		
• Plan • Discuss • Generate • Exploded diagrams • Market research • Audience • Purpose • Consumer • Manipulate • Assemble	• design • prototype • consumer • hand made • mould • apply • stitch • technique • components	• Prepare • Plan • Safety • Hygiene • Weigh, grams • Seasons • Diet • Chop, mix, stir, bake

• Evaluate • Fit for purpose • Functionality		

Year Four

Construction Inc. Mechanisms	Textiles	Cooking and nutrition
DESIGN • Use research and develop a criteria to inform the design of an innovative, functional and appealing product. •Identify who the product is for and ensure it is fit for purpose • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, •Create prototypes, pattern pieces and/or computer-aided design MAKE •Use a wide range of tools to cut, shape and join materials accurately • Select materials based on their aesthetic and functional qualities •Measure materials with great accuracy TECHNICAL • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures •Understand and use electrical systems in their products (series circuits, switches and motors)	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 (fabric scissors, needle, thread) • Select textiles and materials that are most suited to the product •Use a range of finishing techniques to ensure the product is aesthetically pleasing •Use a range of stitching techniques (e.g. cross stitch, running stitch, whip stitch)	DESIGN • Develop own design criteria highlighting the purpose and audience for the product •Generate, discuss and share ideas as a whole class •Produce a design to communicate ideas 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 which products are available when •Understand how some of the ingredients are grown •Explain what is meant by safe food storage

Evaluate

- Investigate and analyse a range of existing products
- Evaluate ideas and products against their own design criteria
- Consider the views of others to improve their work and record
- • Understand how key events and individuals have helped shape the world of DT

Design Technology

Assessment for learning		
• 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 use finishing techniques, showing an awareness of audience? (e.g. sanding, varnishing, glazing) • 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 select and use appropriate equipment and tools accurately and safely • 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 consider the way the product will be used when planning? • Do they understand designs must meet a range of criteria? • 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 consider which materials are fit for purpose and join them appropriately • Can they devise a template or pattern for their product? • Can they increasingly model their ideas before making? • Can they measure accurately to centimetres? • Can they use permanent and temporary fastenings to join? • Strengthen joins and corners in a variety of ways • Can they use equipment and tools with increased accuracy and safety?	•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?
Key Vocabulary		
• Test • Develop • Exploded diagrams, cross sectional diagrams • Market research • Audience	• design • prototype • consumer • mould	• Prepare • Plan • Safety • Hygiene • Weigh, grams

Design Technology

• Analyse • Consumer • Manipulate • Constraints • Hand-made • Assemble • Evaluate • Functionality	• apply • stitch • technique • components • shape • construct	• Seasons • Diet • Chop, mix, stir, bake • Ingredients • Grown • Contamination • Diet • Bacteria

Year Five

Construction Inc. Mechanisms	Textiles	Cooking and nutrition
DESIGN • Use research and develop a criteria to inform the design of an innovative, functional and appealing product. •Identify who the product is for and ensure it is fit for purpose • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, •Create prototypes, pattern pieces and/or computer-aided design MAKE •Use a wide range of tools to cut, shape and join materials accurately • Select materials based on their aesthetic and functional qualities •Measure materials with great accuracy 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]	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 (fabric scissors, needle, thread) • Select textiles and materials that are most suited to the product •Use a range of finishing techniques to ensure the product is aesthetically pleasing •Use a range of stitching techniques (e.g. cross stitch, running stitch, whip stitch) •Combine art techniques to increase the products appeal (e.g. fabric printing)	DESIGN • Develop own design criteria highlighting the purpose and audience for the product •Generate, discuss and share ideas in pairs •Produce a design to communicate ideas 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. •follow a simple recipe when cooking • use proportions when cooking (e.g. doubling or halving amounts) •display good hygienic practice when cooking
Evaluate		

Design Technology

• Investigate and analyse a range of existing products • Evaluate ideas and products against their own design criteria • Consider the views of others to improve their work and record • • Understand how key events and individuals have helped shape the world of DT

Assessment for learning		
• 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 a combination of other mechanisms? • Can they make up a prototype first? • 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? • Refine the quality of the finished product, including making annotations on the design • Can they increasingly use testing to improve models and finished products? • Are they motivated to refine and further improve their product?	• 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? •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? • Can they evaluate appearance and function against the original design criteria?	• 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 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?
Key Vocabulary		
• Test • Develop • Exploded diagrams, cross sectional diagrams • Market research • Audience • Analyse	• design • prototype • consumer • mould • apply	• quality • Plan • Safety • Hygiene • Weigh, grams • texture

• Consumer • Manipulate • Constraints • Hand-made • Assemble • Evaluate • Functionality	• stitch • technique • components • shape • construct	• Diet • Chop, mix, stir, bake • Ingredients • taste • Contamination • Diet • Bacteria • presentation

Year Six

Construction Inc. Mechanisms	Textiles	Cooking and nutrition
DESIGN • Use research and develop a criteria to inform the design of an innovative, functional and appealing product. •Identify who the product is for and ensure it is fit for purpose • Generate, develop, model and communicate ideas through discussion, computer aided design (must include), cross-sectional or exploded diagrams •Create accurate scaled diagrams •Create prototypes, pattern pieces and/or computer-aided design MAKE •Use a wide range of tools to cut, shape and join materials accurately • Select materials based on their aesthetic and functional qualities •Measure materials with great accuracy TECHNICAL • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures • 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 (fabric scissors, needle, thread) • Select textiles and materials that are most suited to the product •Use a range of finishing techniques to ensure the product is aesthetically pleasing •Use a range of stitching techniques (e.g. cross stitch, running stitch, whip stitch) •Combine art techniques to increase the products appeal (e.g. fabric printing)	DESIGN • Develop own design criteria highlighting the purpose and audience for the product •Generate, discuss and share ideas in pairs •Produce a design to communicate ideas 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 •follow a simple recipe when cooking •write their own recipe justifying their choices • use proportions when cooking (e.g. doubling or halving amounts) •Discuss and understand the impact culture and society has on food choices •Display good hygienic practice when cooking

Design Technology

• Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]		

Evaluate

- Investigate and analyse a range of existing products
- Evaluate ideas and products against their own design criteria
- Consider the views of others to improve their work and record
- • Understand how key events and individuals have helped shape the world of DT

Assessment for learning

• 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 use a range of information to inform their design? •Can they use market research to inform plans? • Can they draw scaled diagrams with increasing use of ratio? • Can they measure and cut out in precise detail, and make sure that the products are carefully finished? • Can they make separate elements of a model, with improvements where necessary, before combining into the finished article? • Can they use a range of joining techniques?	•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 decisions

Design Technology

• Can they produce a simple instruction manual or handbook for their product? • Have they considered the use of the product when selecting materials? • Can they make up a prototype first? • Can they use different kinds of circuits in their product to improve it? • Can they incorporate a switch into their product?	• 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? • Can they test and evaluate commercial products, understanding how this information supports their own designs?	
Key Vocabulary		
• Test • Develop • Exploded diagrams, cross sectional diagrams • Market research • Audience • Analyse • Consumer • Manipulate • Constraints • Design brief • Assemble • Evaluate • Functionality	• design • prototype • consumer • presentation • apply • stitch • technique • components • shape • construct • dimensions	• quality • Plan • Safety • Hygiene • Weigh, grams • appeal • Diet • Chop, mix, stir, bake • Ingredients • flavours • allergies • Cross contamination • presentation