Botley School Progression grid: Design and Technology

	Design	Make	Evaluate	Technical Knowledge	Cooking and nutrition
Nursery	Choose the right resources to carry out their own plan. Develop their own ideas and then decide which materials to use to express them. Use a wider range of vocabulary Use talk to organise themselves and their play Pay attention to more than one thing at a time, which can be difficult. Children have opportunity to: • Begin to explore a range of different methods and techniques • Begin to make choices about the resources used. • Begin to talk about what I have used • Talk about what they have made	Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. Use one-handed tools and equipment, for example, making snips in paper with scissors. Use a comfortable grip with good control when holding pens and pencils Use large-muscle movements to wave flags and streamers, paint and make marks. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Join different materials and explore different textures. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. Draw with increasing complexity and detail, such as representing a face with a circle and including details. Use talk to organise themselves and their play Pay attention to more than one thing at a time, which can be difficult. Children have opportunity to: • Use tools familiar to them • Begin to represent things • Use a variety of materials • Begin to make impressions in materials • Begin to use malleable resources by cutting, rolling, pinching, squeezing. • Begin to join things by sticking	Explore how things work. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Use a wider range of vocabulary Choose the right resources to carry out their own plan. Children have opportunity to: • Begin to explore a range of different methods and techniques • Begin to make choices about the resources used.	Explore how things work. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Choose the right resources to carry out their own plan. Children have opportunity to: • Begin to explore a range of different methods and techniques • Begin to make choices about the resources used.	Make healthy choices about food, drink, activity and tooth brushing. Children have opportunity to: • Talk about their favourite foods • Develop a preference for some food and talk about them • Begin to understand how some foods are healthy and others are unhealthy • Begin to understand how food can be changed

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Reception	Create collaboratively, sharing ideas, resources and skills. Children have the opportunity to; • Talk about their ideas and what they are doing/made • Reflect on what they have done/created (process as well as end product) • Begin to think about how they can adapt their ideas • Explore different methods of joining • Explore a range of different materials and media • Explore a range of different methods and techniques **Key Vocab: work, idea, adapt, joining**	Progress towards a more fluent style of moving, with developing control and grace. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. Develop overall body-strength, balance, coordination and agility. Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases. Children have opportunity to: • Experimenting with plasticine, clay, dough, construction kits, 3D junk materials, straws • Use malleable resources to develop skills of rolling, cutting, coiling, pinching etc. • Using clay to make pots, pinch or coil pots. • Making impressions on materials. • Use additive methods- mod roc, plaster of Paris, fillers and subtractive methods • Use natural / man made textiles. • Tear and cut paper. • Create pieces of work for a purpose/with a purpose. • Use junk modelling, fabric, paper, foil, etc to make free patterns or pictures. • Use glues, tape, wool etc. • Explore a variety of techniques such as weaving, gluing **Key Vocab: Join, build, construct, technique/skills such as roll, cut, pinch etc, glue, stick, weave**	Return to and build on their previous learning, refining ideas and developing their ability to represent them. Share their creations, explaining the process they have used. Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. Children will have the opportunity to : • Reflect on what they are doing/creating • Begin to think about how they can adapt their ideas • When things do not go as they expect, they are starting to build resilience and keep trying • When things do not go as they expect, they can explore different • ways of doing things e.g. joining materials together. • Say what they like or do not like about their own and others work **Key Vocab: like, dislike, change, make better, improve**	Use a range of small tools, including scissors, paintbrushes and cutlery. Begin to show accuracy and care when drawing. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Children have opportunity to; • Explore a range of different methods and techniques • Explore different products and talk about what they see, feel, like and dislike **Key Vocab: Join, build, construct, technique/skills such as roll, cut, pinch etc, glue, stick, weave**	Know and talk about the different factors that support their overall health and wellbeing Children have the opportunity to: • Learn that some foods are healthy and some are unhealthy • Understand the importance of a balanced and varied diet • Understand the importance of good hygiene in the preparation of food Prepare food by cutting, peeling, chopping • Explore how food can be changed through cooking

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KS1 National curriculum reference	KS1 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts Children design purposeful, functional, appealing products for themselves and other users based on design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.	KS1 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	KS1 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria	KS1 Design and Technology National Curriculum Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	KS1 Design and Technology National Curriculum Children use the basic principles of a healthy and varied diet to prepare dishes. They understand where food comes from.
Year 1	Children can: - Use their knowledge of existing products and their own experience to help generate their ideas; - Design products that have a purpose and are aimed at an intended user - Understand and follow simple design criteria;	Children can: -Begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; -Learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; -Use a range of materials and components, including textiles and food ingredients; -Cut, shape and score materials with some accuracy; -Assemble, join and combine materials, components or ingredients; -Cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups;	. Children can: -Explain positives and things to improve for existing products; -Explore what materials products are made from; -As they work, start to identify strengths and possible changes they might make to refine their existing design;	Children can: -Build simple structures -Talk about and start to understand the simple working characteristics of materials and components	Children can: -Understand that all food comes from plants or animals -Name and sort foods into the five groups in the Eatwell Guide -Understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why
Year 2	Children can: -Explain how their products will look and work through talking and simple annotated drawings; -Design models using simple	Children can: -Demonstrate how to cut, shape and join fabric to make a simple product; -Manipulate fabrics in simple ways	Children can: -Evaluate their products and ideas against their simple design criteria; -Start to understand that the iterative process sometimes	Children can: -Build simple structures, exploring how they can be made stronger, stiffer and more stable -Explore and create products using	Children can: -Use what they know about the Eatwell Guide to design and prepare dishes -Understand that food has to be

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	computing software; -Plan and test ideas using templates and mock-ups;	to create the desired effect; -Use a basic running stich; - Select from a range of materials, textiles and components according to their characteristics; -With help, measure and mark out	involves repeating different stages of the process. -Explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations;	mechanisms, such as levers, sliders and wheels	farmed, grown elsewhere (e.g. Home) or caught -Explain where in the world different foods originate from
Lower KS2 National curriculum reference	LKS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. -When designing, explore different initial ideas before coming up with a final design;	LKS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. They 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.	LKS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world.	KS2 Design and Technology National Curriculum Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products	KS2 Design and Technology National Curriculum Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
Year 3	Children can: -Identify the design features of their products that will appeal to intended customers; -Use their knowledge of a broad range of existing products to help generate their ideas; -Explain how particular parts of their products work; -Test ideas out through using prototypes	Children can: -With growing confidence, carefully select from a range of tools and equipment, explaining their choices; -Use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; - With growing independence, measure and mark out to the nearest cm and millimeter; -Demonstrate how to measure, cut,	Children can: -Evaluate their product against their original design criteria -Explore what materials/ingredients products are made from and suggest reasons for this; -Talk about key individuals and events that have shaped technological advances	. Children can: -Understand that materials have both functional properties and aesthetic qualities -Understand and demonstrate how mechanical systems have an input and output process -Understand and demonstrate how electrical systems have an input and output process -Program a simple output such as stop and go	Children can: - Start to understand seasonality - With support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven; - Use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking; -Understand that to be active and healthy, nutritious food and drink

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		shape and join fabric with some accuracy to make a simple product;			are needed to provide energy for the body
Year 4	Children can: -When designing, explore different initial ideas before coming up with a final design; -Design innovative and appealing products that have a clear purpose and are aimed at a specific user; -Use annotated sketches and cross-sectional drawings to develop and communicate their ideas -When planning, start to explain their choice of materials and components including function and aesthetics; -Use computer-aided design to develop and communicate their ideas	Children can: -Select from a range of materials and components according to their functional properties and aesthetic qualities; -Join textiles with an appropriate sewing technique; -Cut, shape and score materials with some degree of accuracy; -Assemble, join and combine material and components with some degree of accuracy - Begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tiedye, fabric paints and digital graphics.	Children can: -Consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; -Explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; -Identify key individuals and events that have shaped technological advances	Children can: -Make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; -Explain how mechanical systems such as levers and linkages create movement; - Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; -Program a 2 step output such as turn and go	Children can: Prepare ingredients using appropriate cooking utensils; -Understand how to prepare and cook a variety of predominantly savory dishes safely and hygienically; -Explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; -Measure and weigh ingredients to the nearest gram and milliliter -Start to independently follow a recipe; - Start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world;
Upper Key Stage National curriculum Reference	UKS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern	UKS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. They 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.	UKS2 Design and Technology National Curriculum Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world.	KS2 Design and Technology National Curriculum Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products	KS2 Design and Technology National Curriculum Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

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	pieces and computer- aided design.				
Year 5	Children can: -Use their knowledge of a broad range of existing products to help generate their ideas; -Design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; -Explain how particular parts of their products work; -Generate a range of design ideas and clearly communicate final designs	Children can: -Select from a range of materials and components according to their functional properties and aesthetic qualities; -Independently take exact measurements and mark out, to within 1 millimeter; -Join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; -Cut, shape, score, assemble, join and combine materials with precision and accuracy;	Children can: -Analyse successful products in the market today -Evaluate some of the qualities of design, manufacture and fitness for purpose of products as they design and make -Evaluate products against the original design criteria, making changes if needed	Children can: -Create a multi-step computer program. -Understand and demonstrate that mechanical systems have an input, process and output -Understand and demonstrate that electrical systems have an input, process and output;	Children can: -Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; -Demonstrate how to prepare and cook a variety of predominantly savory dishes safely and hygienically including, where appropriate, the use of a heat source -Measure accurately and calculate ratios of ingredients to scale up or down from a recipe -Independently follow a recipe -Explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes
Year 6	Children can: -Use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market -Use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; -Consider the availability and costings of resources when planning out designs; -Generate a range of design ideas and clearly communicate final designs	Children can: -Create step-by-step plans as a guide to making; -Demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; -Refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape -Use a full range of materials and components, including construction materials and kits, textiles, and mechanical components	Children can: Complete detailed competitor analysis of other products on the market -Critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make -Evaluate their ideas and products against the original design criteria, making changes as needed	Children can: -Identify their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products -Explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; -Use an electrical system for a purpose. -Create a complex program for a desired outcome i.e. A continuous cycle. -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products	Children can: -Explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes -Demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling; -Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma; - Alter methods, cooking times and/or temperatures; -Understand about seasonality, how this may affect the food availability and plan recipes according to seasonality