DT Scheme of Work: Knowledge and Skills Curriculum

Class One

Reception – follow the 'statutory framework for the Early Years': The level of development children should be expected to have attained by the end of the EYFS is defined by the early learning goals (ELGs). Educational programmes must involve activities and experiences for children, as set out under each of the areas of learning.
Communication and Language: By commenting on what children are interested in or doing, and echoing back what they say with new vocabulary added, practitioners will build children's language effectively. Providing them with extensive opportunities to use and embed new words in a range of contexts, will give children the opportunity to thrive. Through conversation, where children share their ideas with support and modelling from their teacher, and sensitive questioning that invites them to elaborate, children become comfortable using a rich range of vocabulary and language structures.
Personal, Social and Emotional Development: Children should be supported to set themselves simple goals, have confidence in their own abilities, to persist and wait for what they want and direct attention as necessary. Through adult modelling and guidance, they will learn how to look after their bodies, including healthy eating.
Physical Development: Repeated and varied opportunities to explore and play with small world activities, puzzles, arts and crafts and the practice of using small tools, with feedback and support from adults, allow children to develop proficiency, control and confidence.
Expressive Arts and Design: It is important that children have regular opportunities to explore and play with a wide range of media and materials.
Year 1 - Design purposeful, functional, appealing products for themselves & other users based on design criteria; Select & use a range a wide range of materials & components, including construction materials, textiles & ingredients, according to their characteristics; Understand where food comes from & group familiar food products.
Year 2 - Generate, develop, model & communicate ideas through talking, drawing, templates, mock-ups &, where appropriate, ICT; Build structures & mechanisms, exploring how they can be made stronger, stiffer & more stable; Explore & evaluate a range of existing products, evaluating own ideas and products against design criteria.

Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Make comments about what they have heard and ask questions to clarify their understanding. Use pictures and words to convey what they want to design / make. Propose more than one idea for their product. Set and work towards simple goals. Explore ideas by rearranging materials. Use ICT to communicate ideas. Show an ability to follow instructions involving several ideas or actions. Select pictures to help develop ideas. Use drawings to record ideas as they are developed. Offer explanations for why things might happen. Use mock-ups e.g. recycled material trial models to try out their ideas. Add notes to drawings to help explanations.	Select materials from a limited range. Explain what they are making. Discuss their work as it progresses. Explain which materials they are using and why. Use a range of small tools, including scissors. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Name the tools they are using. Select and name the tools needed to work the materials.	Explore existing products and investigate how they have been made (including teacher-made examples). Talk about their design as they develop and identify good and bad points. Decide how existing products do / do not achieve their purpose. Share their creations, explaining the process they have used. Say what they like and do not like about items they have made and attempt to say why. Discuss how closely their finished product meets their own design criteria.	Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. Start to use technical vocabulary. Start to use technical vocabulary. Cut out shapes which have been created by drawing round a template. Cut out shapes which have been created by drawing round a template. Join materials in a variety of ways. Join materials in a variety of ways. Show how to stiffen some materials. Know how to make a simple structure more stable. Decorate using a variety of techniques. Decorate using a variety of techniques. Know some ways of making structures stronger. Attach wheels to a chassis using an axle. Know some different ways of making things move in a 2-D plane.	Group familiar food products e.g. fruit and vegetables. Understand where food comes from. Cut and chop a range of ingredients. Cut, peel, grate, chop a range of ingredients. Work safely and hygienically. Work safely and hygienically. Understand the importance of healthy food choices. Know about the need for a variety of foods in a diet. Know about the Eatwell Plate.

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Class Two

Year 3 - Use research & criteria to develop products which are fit for purpose; Use annotated sketches and prototypes to explain ideas; Evaluate existing products and improve own work; Use mechanical systems in own work; Understand seasonality; prepare & cook mainly savoury dishes.
Year 4 - Use research& criteria to develop products which are fit for purpose; Use annotated sketches and prototypes to explain ideas; Evaluate existing products and improve own work; Use mechanical systems in own work; Understand seasonality; prepare & cook mainly savoury dishes.

Design	**Make**	**Evaluate**	**Technical Knowledge**	**Cooking and Nutrition**
Develop more than one design or adaptation of an initial design. Record the plan by drawing using annotated sketches. Plan a sequence of actions to make a product. Use prototypes to develop and share ideas. Think ahead about the order of their work and decide upon tools and materials. Propose realistic suggestions as to how they can achieve their design ideas. Consider aesthetic qualities of materials chosen. Use CAD where appropriate.	Select from a range of tools for cutting, shaping, joining and finishing. Prepare pattern pieces as templates for their design. Use tools with accuracy. Select from materials according to their functional properties. Use appropriate finishing techniques. Select from techniques for different parts of the process.	Investigate similar products to the one to be made to give starting points for a design. Draw / sketch existing products in order to analyse and understand how products are made. Research needs of user. Decide which design idea to develop. Consider and explain how the finished product could be improved. Consider and explain how the finished product could be improved. Discuss how well the finished product meets the user's design criteria. Identify the strengths and weaknesses of their design ideas in relation to purpose / user. Investigate key events and individuals in design and technology.	Use an increasingly appropriate technical vocabulary for tools materials and their properties. Use an increasingly appropriate technical vocabulary for tools materials and their properties. Understand seam allowance. Prototype a product. Sew on buttons and make loops. Understand seam allowance. Prototype a product. Sew on buttons and make loops. Strengthen frames with diagonal struts. Strengthen frames with diagonal struts. Measure and mark square section, strip and dowel accurately to 1cm. Measure and mark square section, strip and dowel accurately to 1cm. Incorporate a circuit into a model. Incorporate a circuit into a model. Use electrical systems such as switches bulbs and buzzers. Use electrical systems such as switches bulbs and buzzers. Use ICT to control products. Use ICT to control products. Use linkages to make movement larger or more varied. Use linkages to make movement larger or more varied.	Join and combine a range of ingredients. Follow instructions / recipes. Prepare and cook using different cooking techniques. Begin to understand the food groups on the Eatwell Plate. Make healthy eating choices – use the Eatwell plate. Understand seasonality. Know where and how ingredients are reared and caught.

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Class Three

Year 5 - Use research& criteria to develop products which are fit for purpose and aimed at specific groups; Use annotated sketches, cross-section diagrams & computer-aided design; Analyse & evaluate existing products and improve own work; Use mechanical & electrical systems in own products, including programming; Cook savoury dishes for a healthy & varied diet.

Year 6 - Use research& criteria to develop products which are fit for purpose and aimed at specific groups; Use annotated sketches, cross-section diagrams & computer-aided design; Analyse & evaluate existing products and improve own work; Use mechanical & electrical systems in own products, including programming; Cook savoury dishes for a healthy & varied diet.

Year 5 and 6 skills.

Design	**Make**	**Evaluate**	**Technical Knowledge**	**Cooking and Nutrition**
Record ideas using annotated diagrams. Plan the sequence of work. Devise step by step plans which can be read / followed by someone else. Use models, kits and drawings to help formulate design ideas. Sketch and model alternative ideas. Decide which design idea to develop. Use exploded diagrams and cross-sectional diagrams to communicate ideas.	Develop one idea in depth. Make prototypes. Use researched information to inform decisions. Select from and use a wide range of tools. Cut accurately and safely to a marked line. Select from and use a wide range of materials. Produce detailed lists of ingredients / components / materials and tools. Refine their product – review and rework / improve.	Research and evaluate existing products. Identify the strengths and weaknesses of their design ideas. Consider user and purpose. Consider and explain how the finished product could be improved related to design criteria. Report using correct technical vocabulary. Discuss how well the finished product meets the design criteria having tested on/discussed outcomes with the user. Investigate key events and individuals in design and technology. Investigate key events and individuals in design and technology. Understand how key people have influenced design in a variety of contexts. Investigate key events and individuals in design and technology.	Use the correct vocabulary appropriate to the project. Join materials using appropriate methods. Create 3=-D textile products using pattern pieces. Understand pattern layout with textiles. Build frameworks to support mechanisms. Stiffen and reinforce complex structures. Cut strip wood, dowel, square section wood accurately to 1mm. Use electrical systems such as motors and switches. Program, monitor and control using ICT. Use mechanical systems such as cams, pulleys and gears.	Understand and apply the principles of a healthy and varied diet. Choose ingredients to support healthy eating choices when designing their food products. Know where and how ingredients are grown and processed. Join and combine a widening range of ingredients. Select and prepare foods for a particular purpose. Prepare and cook a variety of mostly savoury dishes using a range of cooking techniques.