



## Working with tools, equipment, materials and components to make quality products

E.Y.F.S. F1	<ul style="list-style-type: none"> <li>• Use large-muscle movements to wave flags and streamers, paint and make marks. (PD)</li> <li>• Use one-handed tools and equipment, for example, making snips in paper with scissors. (PD)</li> <li>• Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. (EAD)</li> <li>• Create closed shapes with continuous lines, and begin to use these shapes to represent objects. (EAD)</li> </ul>
E.Y.F.S. F2	<ul style="list-style-type: none"> <li>• Develop their small motor skills so that they can use a range of tools competently, safely and confidently. (PD)</li> <li>• Explore, use and refine a variety of artistic effects to express their ideas and feelings. (EAD)</li> <li>• Create collaboratively, sharing ideas, resources and skills. (EAD)</li> <li>• <b>ELG (PD) Use a range of small tools, including scissors, paintbrushes and cutlery.</b></li> <li>• <b>ELG (EAD) Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</b></li> </ul>

Year 1	Year 2	Year 3
<ul style="list-style-type: none"> <li>• Can they explain what they are making?</li> <li>• Can they select the appropriate resources and tools?</li> <li>• Can they explain which tools they are using and why?</li> <li>• Can they use tools safely?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they join materials/components together in different ways?</li> <li>• Can they measure materials to use in a model or structure?</li> <li>• Can they use joining, folding or rolling to make it stronger?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they use equipment and tool accurately and safely?</li> <li>• Can they select the most appropriate materials, tools and techniques to use?</li> <li>• Can they manipulate materials using a range of tools and equipment?</li> <li>• Can they measure, cut and assemble with increasing accuracy?</li> </ul>
Year 4	Year 5	Year 6
<ul style="list-style-type: none"> <li>• Can they use equipment and tools with increased accuracy and safely?</li> <li>• Can they select the most effective materials, tools and techniques to use?</li> <li>• Can they manipulate materials effectively using a range of tools and equipment?</li> <li>• Can they measure, cut and assemble accurately?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they choose appropriate tools and materials to ensure that the final product will appeal to the audience?</li> <li>• Can they use a range of tools and equipment with good accuracy and effectiveness, within established safety parameters?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they choose appropriate tools and materials to ensure that the final product will appeal to the audience?</li> <li>• Can they use a range of tools and equipment with good accuracy and effectiveness, within established safety parameters?</li> </ul>

# Textiles

E.Y.F.S.	N/A
<b>KS1</b>	
<ul style="list-style-type: none"> <li>• measure an amount of a textile</li> <li>• join textiles together to make a product using techniques such as stitching</li> <li>• cut textiles accurately</li> <li>• explain why they chose a certain textile</li> <li>• bond fabrics together</li> <li>• build an image using fabrics</li> <li>• create a large-scale textile or sculpture piece through class collaboration</li> </ul>	
<b>LKS2</b>	
<ul style="list-style-type: none"> <li>• join textiles of different types in a range of ways</li> <li>• choose textiles both for their appearance and qualities</li> <li>• begin to use a range of simple stitches</li> <li>• use fabric to build an image</li> <li>• add details to a piece of work</li> <li>• add texture to a piece of work</li> <li>• consider which materials are fit for purpose and join them appropriately</li> <li>• devise a template or pattern for their product</li> <li>• explore a range of textures using textiles</li> <li>• transfer a drawing into a textile design</li> <li>• use artist to influence their textile designs</li> </ul>	
<b>UKS2</b>	
<ul style="list-style-type: none"> <li>• consider the audience when choosing textiles</li> <li>• make up a prototype first</li> <li>• use a range of joining techniques</li> <li>• devise a template or pattern for their product</li> <li>• explore a range of textures using textiles</li> <li>• transfer a drawing into a textile design</li> <li>• experiment with different ways of exploring textiles</li> <li>• use artists to influence their textile designs</li> </ul>	

## Mechanisms/Electrical and Mechanical Components

Year 1	Year 2	Year 3
<ul style="list-style-type: none"><li>• make a product which moves</li><li>• cut materials using scissors describe the materials using different words</li><li>• say why they have chosen moving parts</li></ul>	<ul style="list-style-type: none"><li>• join materials together as part of a moving product</li><li>• explain how different parts move</li></ul>	<ul style="list-style-type: none"><li>• use a range of components E.g., levers, linkages</li></ul>
Year 4	Year 5	Year 6
<ul style="list-style-type: none"><li>• use a simple circuit and add components to it</li><li>• make a product which uses both electrical and mechanical components</li></ul>	<ul style="list-style-type: none"><li>• refine their product after testing it</li></ul>	<ul style="list-style-type: none"><li>• use different kinds of circuits in a product to improve it</li><li>• incorporate a switch into a product</li><li>• refine their product after testing it?</li></ul>

## Construction and Use of Materials

E.Y.F.S. F1	<ul style="list-style-type: none"> <li>• can use equipment correctly.</li> <li>• choose the right equipment and be safe</li> <li>• choose the correct resources</li> <li>• use scissors to snip paper.</li> <li>• grip crayons to squiggle.</li> <li>• build with purpose.</li> <li>• stick and glue to create a design.</li> </ul>
E.Y.F.S. F2	<ul style="list-style-type: none"> <li>• follow instructions.</li> <li>• cut shapes with scissors.</li> <li>• cut soft things with a knife.</li> <li>• draw with a variety of apparatus.</li> <li>• create creations over a few days.</li> <li>• create creations in a team.</li> </ul>

Year 1	Year 2	Year 3
<ul style="list-style-type: none"> <li>• arrange pieces of the construction before building</li> <li>• make a structure/model using different materials</li> </ul>	<ul style="list-style-type: none"> <li>• make sensible choices of which materials to use for their construction</li> <li>• make their structure stronger, stiffer or more stable</li> </ul>	<ul style="list-style-type: none"> <li>• join materials effectively to build a product</li> <li>• use a range of techniques to shape and mould materials</li> <li>• use finishing techniques E.g., sanding, varnishing, glazing etc</li> </ul>
Year 4	Year 5	Year 6
<ul style="list-style-type: none"> <li>• measure accurately to build effective structures</li> <li>• use a range of techniques to shape and mould</li> <li>• use experiment with a range of techniques to increase stability in a structure</li> <li>• use finishing techniques, showing an awareness of audience E.g. sanding, varnishing, glazing etc</li> </ul>	<ul style="list-style-type: none"> <li>• measure accurately enough to ensure precision</li> <li>• demonstrate that their product is strong and fit for purpose</li> <li>• be motivated to refine and further improve their product</li> </ul>	<ul style="list-style-type: none"> <li>• measurements accurate enough to ensure precision</li> <li>• demonstrate that their product is strong and fit for purpose</li> <li>• motivated to refine and further improve their product</li> </ul>

## Evaluating Processes and Products

<b>E.Y.F.S. F1</b>	<ul style="list-style-type: none"> <li>• attempt to answer why questions.</li> <li>• explore how things work.</li> <li>• explain why what has been chosen to make an item.</li> <li>• explain what is liked and what would be changed</li> </ul>
<b>E.Y.F.S. F2</b>	<ul style="list-style-type: none"> <li>• answer any question asked.</li> <li>• give a review using a variety of connectives (and, then, before, first)</li> <li>• think aloud to solve a problem.</li> <li>• use words like 'I think its...', 'you could...' and 'it might be....'.</li> <li>• positively review others creations and make suggestions for improvement.</li> <li>• observe a creation and make changes.</li> <li>• begin to talk about changes made during the making process, e.g. making a decision to use a different joining method.</li> </ul>

Year 1	Year 2	Year 3
<ul style="list-style-type: none"> <li>• Can they describe how their products works?</li> <li>• Can they identify success and next steps?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they assess how well their product works?</li> <li>• If they did it again, can they explain what they would improve?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they start to think about their ideas as they make progress and be willing to make changes if this helps them to improve their work?</li> <li>• Can they assess how well their product works in relation to the purpose?</li> <li>• Can they explain how they could change their design to make it better?</li> </ul>
Year 4	Year 5	Year 6
<ul style="list-style-type: none"> <li>• Can they think about their ideas as they progress and make changes to improve their work?</li> <li>• Can they assess how well their product works in relation to the design criteria and intended purpose?</li> <li>• Can they explain how they could improve their design and how their improvements would affect the original outcome?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they continuously check that their design is effective and fit for purpose?</li> <li>• Can they assess how well their product works in relation to the design criteria and intended purpose and suggest improvements?</li> <li>• Can they evaluate appearance and function against the original design criteria?</li> </ul>	<ul style="list-style-type: none"> <li>• How well do they test and evaluate their final product?</li> <li>• Is it fit for purpose?</li> <li>• What would improve it?</li> <li>• Would different resources have improved their product?</li> <li>• Would they need more or different information to make it even better?</li> <li>• Does their product meet all design criteria</li> </ul>

## Knowledge and Skills Map – D.T – Developing, Planning and Communicating Ideas

<b>E.Y.F.S. F1</b>	<ul style="list-style-type: none"> <li>• choose equipment for play.</li> <li>• choose the right equipment</li> <li>• choose the correct resources</li> <li>• think about what is being created</li> <li>• adapt designs.</li> <li>• use the shapes drawn (freely) to represent objects</li> </ul>
<b>E.Y.F.S. F2</b>	<ul style="list-style-type: none"> <li>• Explain what is made and what materials were used</li> <li>• Select materials from a limited range that will meet a simple design criteria e.g. shiny.</li> <li>• Select and name the tools needed to work the materials e.g. scissors for paper.</li> <li>• Explore ideas by rearranging materials.</li> <li>• Describe simple models or drawings of ideas and intentions.</li> <li>• Discuss work as it progresses</li> </ul>

Year 1	Year 2	Year 3
<ul style="list-style-type: none"> <li>• identify the key features of an existing product</li> <li>• think of some ideas on their own</li> <li>• plan an outcome through pictures with labels</li> <li>• explain ideas orally</li> </ul>	<ul style="list-style-type: none"> <li>• generate ideas through comparing existing products</li> <li>• create an innovative product</li> <li>• choose the most appropriate tools and materials and explain choices</li> <li>• describe their design by using pictures, diagrams and words</li> </ul>	<ul style="list-style-type: none"> <li>• plan a design using accurate diagrams and information</li> <li>• plan the equipment/tools needed and give reasons why</li> <li>• start to order the main stages of making their product</li> <li>• identify a design criterion and establish a purpose/audience for their product?</li> <li>• How realistic are the plans? E.g., tools, equipment, materials, components.</li> </ul>
Year 4	Year 5	Year 6
<ul style="list-style-type: none"> <li>• create a final design for a product based on initial ideas and revisions based on existing ideas</li> <li>• create a detailed plan considering the target audience, design criteria and intended purpose</li> </ul>	<ul style="list-style-type: none"> <li>• survey their target audience and use this to generate ideas</li> <li>• take a user's view into account when designing</li> <li>• produce a detailed step-by-step plan for the design method</li> <li>• suggest some alternative designs and compare the benefits and drawbacks to inform the design process and outcome</li> </ul>	<ul style="list-style-type: none"> <li>• use a range of information to inform a design</li> <li>• use market research to inform plans</li> <li>• work within constraints</li> <li>• justify their plan to someone else</li> <li>• consider culture and society in their design</li> <li>• considered the use of the product when selecting materials</li> <li>• how the product can be marketed through packaging and advertising</li> </ul>

## Knowledge and Skills Map – D.T – Cooking and Nutrition

### E.Y.F.S.

- consistently making healthy choices.
- bake and explore ingredients for a variety of recipes.
- explain what happens when something goes into the oven.
- pretend using a mud kitchen.
- have basic hygiene awareness
- manage own hygiene.
- understand why we need fruit and veg, begin to understand the five a day rule.
- start to think about the need for a variety of foods in a diet.
- explore familiar food products e.g. fruit and vegetables.
- discuss appropriate use of senses e.g. when tasting different foods.
- begin to develop a food vocabulary using taste, smell, texture and feel.
- to begin to understand some of the tools, techniques and processes involved in food preparation and use them with confidence.
- carry out instructions with support.
- follow instructions given one at a time by an adult.
- begin to work safely and hygienically.
- stir, spread, knead and shape a range of food and ingredients.
- measure and weigh food items, non-statutory measures e.g. spoons, cups.

### KS1

- describe textures
- wash hands & clean surfaces
- think of interesting ways to decorate food
- say where some foods come from, (i.e. plant or animal)
- describe differences between some food groups (i.e. sweet, vegetable etc.)
- discuss how fruit and vegetables are healthy
- cut, peel and grate safely, with support
- cut food safely.
- understand safety procedures for cooking with equipment.
- understand hygiene rules when cooking.
- know how to prepare simple dishes safely and hygienically without using a heat source.
- understand where food comes from and know that all food comes from plants or animals.
- know that food has to be farmed, grown elsewhere (e.g. home) or caught.
- begin to recognise that everyone should eat five portions of fruit and vegetables a day.
- sort foods into the five groups in the 'Eatwell Plate'.
- know, then demonstrate how to use techniques such as cutting, peeling and grating.
- describe the ingredients being used
- use the basic principles of a healthy and varied diet to prepare dishes.
- prepare simple dishes without a heat source.

### LKS2

- describe how food ingredients come together and join and combine a range of ingredients.
- know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.
- begin to understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.
- know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'.
- know that to be active and healthy, food and drink are needed to provide energy for the body.
- begin to understand that to be active and healthy, food and drink are needed to provide energy for the body.
- develop understanding of how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
- understand how to prepare and cook a variety of savoury and sweet dishes safely and hygienically including, where appropriate, the use of a heat source.
- analyse the taste, texture, smell and appearance of a range of food.
- develop understanding of how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking

## UKS2

- show how to be both hygienic and safe in the kitchen.
- understand that seasons may affect the food available.
- understand how food is processed into ingredients that can be eaten or used in cooking.
- understand and apply principles of a healthy and varied diet.
- know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.
- demonstrate a range of baking and cooking techniques.
- understand that recipes can be adapted to change appearance, taste, texture and aroma.
- begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.
- understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
- explain how products should be stored and give reasons for the importance of correct storage and handling of ingredients.
- know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.
- create and refine recipes, including healthy seasonal ingredients, methods, cooking times and temperatures.
- measure accurately and calculate ratios of ingredients to scale up or down from a recipe.