



# Highfield Primary School Progression Map 2024 - 2025

## Subject: Design and Technology

### Intent

At Highfield Primary School our intent is to provide our children with a high-quality Design and Technology education that is relevant in the rapidly changing world. Through the curriculum, we will encourage: problem solving, opportunities for research, representation of ideas, exploration, investigation, idea development, product making and self/ peer evaluation. We believe that high-quality Design and Technology lessons will inspire children to think independently, innovatively and develop creative, procedural and technical understanding.

### Implementation

#### Progression of Knowledge

	EYFS		KS1		KS2			
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Nursery children will be taught to/about:	In addition to knowledge taught in the Nursery, Reception children will be taught to/about:	In addition to EYFS knowledge, Year 1 children will be taught to/about:	In addition to EYFS and Year 1 knowledge, Year 2 children will be taught to/about:	In addition to KS1 knowledge, Year 3 children will be taught to/about:	In addition to KS1 and Year 3 knowledge, Year 4 children will be taught to/about:	In addition to KS1 and Lower KS2 knowledge, Year 5 children will be taught to/about:	In addition to KS1, Lower KS2 and Year 5 knowledge, Year 6 children will be taught to/about:
<b>Cooking and Nutrition</b>	<p>start to eat independently and learn how to use a knife and fork</p> <p>begin to make healthy choices about food, drink, activity and tooth brushing</p>	<p>eat independently and learn how to use a knife and fork</p> <p>make healthy choices about food, drink, activity and tooth brushing</p> <p>with support, use knives to chop a range of ingredients</p>	<p>begin to understand that all food comes from plants or animals</p> <p>explore the understanding that food has to be farmed, grown elsewhere or caught</p>	<p>understand that all food comes from plants or animals</p> <p>know that food has to be farmed, grown elsewhere or caught</p> <p>understand how to name and sort foods into the five groups in 'The Eat well plate'</p>	<p>begin to 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</p>	<p>understand 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</p>	<p>begin to understand that seasons may affect the food available</p> <p>begin to understand how food is processed into ingredients that can be eaten or used in cooking</p>	<p>understand that seasons may affect the food available</p> <p>understand how food is processed into ingredients that can be eaten or used in cooking</p>

	<p>begin to use knives to chop a range of ingredients</p>		<p>begin to understand how to name and sort foods into the five groups in 'The Eat well plate'</p> <p>begin to understand that everyone should eat at least five portions of fruit and vegetables every day</p> <p>know how to prepare simple dishes safely and hygienically, without using a heat source</p> <p>know how to use techniques such as cutting, peeling and grating</p>	<p>know that everyone should eat at least five portions of fruit and vegetables every day</p> <p>demonstrate how to prepare simple dishes safely and hygienically, without using a heat source</p> <p>demonstrate how to use techniques such as cutting, peeling and grating</p>	<p>understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</p> <p>begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p> <p>begin to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'</p> <p>begin to know that to be active and healthy, food and drink are needed to provide energy for the body</p>	<p>understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</p> <p>know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p> <p>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'</p> <p>know that to be active and healthy, food and drink are needed to provide energy for the body</p>	<p>begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p> <p>begin to understand that different food and drink contain different substances, (nutrients, water and fibre), that are needed for health</p>	<p>understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p> <p>know different food and drink contain different substances that are needed for health</p>
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<p><b>Design</b></p>	<p>explore different materials freely, in order to develop their ideas about how to use them and what to make</p> <p>develop their own ideas and then decide which materials to use to express them</p>	<p>explore, use and refine a variety of artistic effects to express their ideas and feelings</p> <p>create collaboratively, sharing ideas, resources and skills</p>	<p>begin to draw on their own experience to help generate ideas and research conducted on criteria</p> <p>begin to understand the development of existing products: What...How...Why</p> <p>begin to suggest ideas and explain what they are going to do</p> <p>understand how to identify a target group for what they intend to design and make based on a design criteria</p> <p>begin to develop their ideas through talk and drawings, make templates and mock ups of their ideas in card and paper or using ICT</p>	<p>begin to generate ideas by drawing on their own and other people's experiences</p> <p>Begin to develop their design ideas through discussion, observation, drawing and modelling</p> <p>identify a purpose for what they intend to design and make</p> <p>further understand how to identify a target group for what they intend to design and make based on a design criteria</p> <p>develop their ideas through talk and drawings and label parts, make templates and mock ups of their ideas in card and paper or using ICT</p>	<p>generate ideas for an item, considering its purpose and the user/s</p> <p>begin to order the main stages of making a product, identify a purpose and establish criteria for a successful product</p> <p>understand how well products have been designed, made, what materials have been used and the construction technique</p> <p>learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</p> <p>begin to understand whether products can be recycled or reused</p> <p>know to make drawings with labels when designing</p> <p>when planning explain their</p>	<p>begin to generate ideas, considering the purposes for which they are designing - link with Mathematics and Science</p> <p>confidently make labelled drawings from different views showing specific features</p> <p>develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail</p> <p>identify the strengths and areas for development in their ideas and products</p> <p>when planning consider the views of others, including intended users, to improve their work</p>	<p>start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces</p> <p>begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose</p> <p>begin to apply a range of finishing techniques, including those from the Art and Design curriculum</p> <p>begin to draw up a specification for their design - link with Mathematics and Science</p> <p>use results of investigations, information sources, including ICT when developing design ideas</p> <p>begin to select</p>	<p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces</p> <p>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose</p> <p>accurately apply a range of finishing techniques, including those from the Art and Design curriculum</p> <p>draw up a specification for their design - link with Mathematics and Science</p> <p>plan the order of their work, choosing appropriate</p>
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					<p><b>choice of materials and components including function and aesthetics</b></p>	<p><b>continue to learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</b></p> <p><b>When planning explain their choice of materials and components according to function and aesthetic</b></p>	<p><b>appropriate materials, tools and techniques</b></p> <p><b>start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose</b></p>	<p><b>materials, tools and techniques</b></p> <p><b>suggest alternative methods of making if the first attempts fail</b></p> <p><b>identify the strengths and areas for development in their ideas and products</b></p> <p><b>know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose</b></p>
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<p><b>Make</b></p>	<p>join different materials and explore different textures</p> <p>explore mechanical equipment</p>	<p>use different techniques for joining materials such as how to use adhesive tape and different sorts of glue</p> <p>use natural materials to make a product</p>	<p>begin to make their design using appropriate techniques</p> <p>with support, follow a plan or basic recipe</p> <p>begin to build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products</p> <p>with support measure, mark out, cut and shape a range of materials</p> <p>explore using tools, including kitchen equipment e.g. scissors and a hole-punch safely</p> <p>begin to assemble, join and combine materials and components together using a</p>	<p>begin to select tools, including kitchen tools, and materials; use correct vocabulary to name and describe them</p> <p>follow a plan or basic recipe</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>with help measure, cut and score with some accuracy</p> <p>learn to use hand tools safely and appropriately</p> <p>begin to assemble, join and combine materials in order to make a product</p> <p>demonstrate how to cut, shape and join fabric to make a simple product</p> <p>use basic sewing techniques</p> <p>begin to choose and use appropriate finishing techniques</p>	<p>select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components and electrical components</p> <p>begin to place main stages of a plan or recipe, in order</p> <p>explain their choice of tools and equipment in relation to the skills and techniques they will be using</p> <p>begin to understand that mechanical and electrical systems have an input, process and output</p> <p>begin to understand that mechanical systems such as levers and linkages or pneumatic systems create movement</p> <p>know how simple electrical circuits</p>	<p>select a wider range of tools and techniques for making their product safely</p> <p>place main stages of a plan or recipe, in order</p> <p>know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques</p> <p>begin to join and combine materials and components accurately in temporary and permanent ways</p> <p>know how mechanical systems such as cams or pulleys or gears create movement</p> <p>understand how more complex electrical circuits and components can be used to create functional products</p> <p>continue to learn how to program a</p>	<p>select appropriate materials, tools and techniques e.g. cutting, shaping, joining and finishing, accurately</p> <p>begin to plan by suggesting what to do next</p> <p>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</p> <p>understand how mechanical systems such as cams or pulleys or gears create movement</p> <p>know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and</p>	<p>confidently select appropriate tools, materials, components and techniques and then use them</p> <p>independently plan by suggesting what to do next</p> <p>use tools safely and accurately</p> <p>assemble components to make working models</p> <p>aim to make and to achieve a quality product</p> <p>with confidence pin, sew and stitch materials together to create a product</p> <p>demonstrate that they can make modifications as they go along</p> <p>construct products using permanent joining techniques</p> <p>understand how mechanical</p>
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			<p>variety of temporary methods e.g. glues or masking tape</p> <p>begin to use simple finishing techniques to improve the appearance of their product</p>	<p>based on their own ideas</p>	<p>and components can be used to create functional products</p> <p>measure, mark out, cut, score and assemble components with more accuracy</p> <p>work safely and begin to work accurately with a range of simple tools</p> <p>begin to think about their ideas as they make progress and be willing to change things if this helps them to improve their work</p> <p>begin to measure, tape or pin, cut and join fabric with some accuracy</p>	<p>computer to monitor changes in the environment and control their products</p> <p>understand how to reinforce and strengthen a 3D framework</p> <p>begin to sew using a range of different stitches, to weave and knit</p> <p>demonstrate how to measure, tape or pin, cut and join fabric with some accuracy</p> <p>begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT</p>	<p>control their products</p> <p>understand that mechanical and electrical systems have an input, process and output</p> <p>begin to measure and mark out more accurately</p> <p>demonstrate how to use skills in using different tools and equipment safely and accurately</p> <p>with growing confidence cut and join with accuracy to ensure a good quality finish to the product</p> <p>weigh and measure accurately (time, dry ingredients, and liquids)</p> <p>begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT</p>	<p>systems such as cams or pulleys or gears create movement</p> <p>know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products</p> <p>know how to reinforce and strengthen a 3D framework</p> <p>understand that mechanical and electrical systems have an input, process and output</p> <p>use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT</p>
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Evaluate	to begin to return to and build on their previous learning, refining ideas and developing their ability to represent them	return to and build on their previous learning, refining ideas and developing their ability to represent them	<p>begin to evaluate their product by discussing how well it works in relation to the purpose (design criteria)</p> <p>when looking at existing products begin to explain what they like and dislike about the products and why</p> <p>begin to evaluate their products as they are developed, identifying strengths and possible changes they might make</p>	<p>evaluate their work against their design criteria</p> <p>look at a range of existing products explain what they like and dislike about products and why</p> <p>evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>With confidence talk about their ideas, saying what they like and dislike about them</p>	<p>begin to evaluate their product against original design criteria e.g. how well it meets its intended purpose</p> <p>begin to disassemble and evaluate familiar products and consider the views of others to improve them</p> <p>begin to evaluate the key designs of individuals in Design and Technology who have helped shape the world</p>	<p>evaluate their products carrying out appropriate tests</p> <p>begin to evaluate their work both during and at the end of the assignment</p> <p>be able to disassemble and evaluate familiar products and consider the views of others to improve them</p> <p>evaluate the key designs of individuals in Design and Technology who have helped shape the world</p>	<p>begin to evaluate a product against the original design specification by carrying out tests</p> <p>evaluate their work both during and at the end of the assignment</p> <p>begin to evaluate it personally and seek evaluation from others</p> <p>continue to evaluate the key designs of individuals in Design and Technology who have helped shape the world</p>	<p>evaluate their products, identifying strengths and areas for development, and carry out appropriate tests</p> <p>evaluate their work both during and at the end of the assignment</p> <p>record their evaluations using drawings with labels</p> <p>evaluate against their original criteria and suggest ways that their product could be improved</p>
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<p><b>Technical Knowledge</b></p>			<p>begin to build simple structures, exploring how they can be made stronger, stiffer and more stable</p> <p>begin to talk about and begin to understand the working characteristics of materials and components</p> <p>begin to explore and create products using mechanisms such as levers, sliders and wheels</p>	<p>independently, build simple structures, exploring how they can be made stronger, stiffer and more stable</p> <p>talk about and understand the working characteristics of materials and components</p> <p>explore and create products using mechanisms such as levers, sliders and wheels</p>	<p>begin to understand that materials have both functional properties and aesthetic qualities</p> <p>begin to apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products</p> <p>begin to understand how mechanical and electrical systems have an input and output process</p> <p>with help, explain how mechanical systems such as levers and linkages create movement</p> <p>begin to use mechanical systems in their products</p>	<p>understand that materials have both functional properties and aesthetic qualities</p> <p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products</p> <p>understand how mechanical and electrical systems have an input and output process</p> <p>explain how mechanical systems such as levers and linkages create movement</p> <p>use mechanical systems in their products</p>	<p>begin to apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products</p> <p>with growing confidence, understand and demonstrate that mechanical and electrical systems have an input, process and output</p> <p>explore how mechanical systems, such as cams, create movement and use mechanical systems in their products</p> <p>begin to apply their understanding of computing to program, monitor and control a product</p>	<p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products</p> <p>understand and demonstrate that mechanical and electrical systems have an input, process and output</p> <p>explain how mechanical systems, such as cams, create movement and use mechanical systems in their products</p> <p>apply their understanding of computing to program, monitor and control a product</p>
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## Impact (End points)

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>By end of the Summer Term</b>	<p>Children in Nursery will be able to:</p> <ul style="list-style-type: none"> <li>&gt; select and use activities and resources, with help when needed</li> <li>&gt; choose the right resources to carry out their own plan</li> <li>&gt; use one-handed tools and equipment, for example, making snips in paper with scissors</li> <li>&gt; explore how things work</li> <li>&gt; make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park</li> <li>&gt; explore different materials freely, in order to develop their ideas about how to use them and what to make</li> </ul>	<p>Children in Reception will be able to:</p> <ul style="list-style-type: none"> <li>&gt; develop their small motor skills so that they can use a range of tools competently, safely and confidently</li> <li>&gt; explore, use and refine a variety of artistic effects to express their ideas and feelings</li> <li>&gt; return to and build on their previous learning, refining ideas and developing their ability to represent them</li> <li>&gt; create collaboratively, sharing ideas, resources and skills</li> <li>E.L.Gs:</li> <li>&gt; use a range of small tools, including scissors, paintbrushes and cutlery</li> <li>&gt; safely use and explore a variety of</li> </ul>	<p>Children in Year 1 will be able to:</p> <ul style="list-style-type: none"> <li>&gt; name a variety of foods and know a few which are healthy or unhealthy</li> <li>&gt; describe how something works/ discuss and make simple plans before making objects/ generate and develop their ideas by talking or drawing</li> <li>&gt; make a product that moves from a given starting point/ select from, and use, a range of materials and components e.g. construction material, textiles and ingredients/ use cutting tools safely</li> <li>&gt; look at current products and recognise what they are used for/ explain what went well with their work</li> </ul>	<p>Children in Year 2 will be able to:</p> <ul style="list-style-type: none"> <li>&gt; describe the properties of the materials/ingredients they are using</li> <li>&gt; develop their own ideas from a given starting point/ create a design and plan how to carry it out</li> <li>&gt; choose the most appropriate tools and materials/ join things (materials, components) in different ways/ measure materials to use in a model or structure</li> <li>&gt; explain their choices of materials and techniques/ explain what went well with their work/ evaluate a range of existing products</li> <li>&gt; select certain materials /adhesives to use and discuss their choices</li> </ul>	<p>Children in Year 3 will be able to:</p> <ul style="list-style-type: none"> <li>&gt; create a menu, a simple method and list of ingredients and utensils/ follow a recipe and use simple cooking techniques/ recognise where and how some ingredients are grown, reared, caught and processed</li> <li>&gt; describe the purpose of their products/ choose a textile both for its appearance and qualities</li> <li>&gt; safely use a wider range of tools to use when making their product/ select from, and use, a range of materials and components e.g. construction material, textiles and ingredients to make sure their product looks attractive/ accurately measure</li> </ul>	<p>Children in Year 4 will be able to:</p> <ul style="list-style-type: none"> <li>&gt; write a simple recipe and use their cooking techniques to create the dish, being hygienic and safe with support/ name healthy food that is grown and some that is processed/ name some foods that are produced at certain times of the year e.g. blackberries</li> <li>&gt; produce a plan to show how their product features will be appealing to others/ recognise if they need to make their product more appealing by checking it against given criteria/ compare their design to a similar product</li> <li>&gt; discuss why they have selected the tools and materials for their products</li> </ul>	<p>Children in Year 5 will be able to:</p> <ul style="list-style-type: none"> <li>&gt; create a recipe with a step by step plan that someone else could follow, saying why it's healthy and show an awareness of hygiene and safety/ make recipes from a range of given ingredients appropriate for the season</li> <li>&gt; design functional and appealing products aimed at a particular group/ present a range of ideas using sketches, drawings and diagrams and suggest some pros or cons for their ideas</li> <li>&gt; use appropriate tools and materials for their products and understand why these are being used/ make a prototype/ use accurate measurements</li> </ul>	<p>Children in Year 6 will be able to:</p> <ul style="list-style-type: none"> <li>&gt; create detailed recipes with instructions and explain how it is varied and healthy, including how to be hygienic and safe/ make recipes that use given seasonal ingredients, and meet the requirements of a particular target audience, e.g. birthday party, afternoon tea</li> <li>&gt; participate in market research to ensure their designs are functional, innovative and appropriate for a particular individual or group/ participate in feedback sessions in order to develop their designs and products</li> </ul>

	<p>&gt; develop their own ideas and then decide which materials to use to express them</p> <p>&gt; create closed shapes with continuous lines, and begin to use these shapes to represent objects</p>	<p>materials, tools and techniques, experimenting with colour, design, texture, form and function</p> <p>&gt; share their creations, explaining the process they have used</p>	<p>&gt; select materials and say why they have chosen them/ select an appropriate adhesive based on the materials they are using</p>		<p>and form the sections of their product making cuts and holes</p> <p>&gt; adapt their design criteria as they develop their product to meet a range of requirements</p> <p>&gt; decide how to strengthen, stiffen and reinforce a structure from a selection of given materials/ create a product that can use one component, either electrical or mechanical</p>	<p>and use them carefully (including measuring) with support</p> <p>&gt; evaluate their product against criteria/ research an inventor and discuss their contribution to design and technology/ suggest some improvements when evaluating their designs</p> <p>&gt; add a mechanical system to their product/ suggest one way that they can improve a mechanical system</p>	<p>&gt; suggest how a product is innovative/ recognise how inventors have been innovative with their products and say what they like about the product/ evaluate the appearance and function against original criteria of their product using the views of others</p> <p>&gt; investigate using an electrical system in their product and create their own using e.g. switches, bulbs, buzzers/ recognise the effect of changing one thing in their electrical system</p>	<p>&gt; select specific materials and explain their choices/ follow their plan and refine if necessary in order to meet most design criteria</p> <p>&gt; create a simple computer program to program and control their product/ suggest how to amend their computer program to improve their product with given success criteria</p> <p>&gt; apply their understanding of computing to program their product</p>
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