

Skills and Progression Map

Design and Technology

'Spirituality is the bitter-sweet yearning for beauty, truth, love and wonder beyond ourselves. It is a longing we pursue together and a treasure we glimpse in ourselves and one another and seek beyond us into eternity. It is life in all its fullness.'

Nebula Spirituality Statement



Outlined in the National Curriculum 2014, there are four given strands of design and technology:

- Design
- Make
- Technical Knowledge
- Evaluate

We have based our curriculum around these 4 strands, with children covering all necessary elements through each school year.

By building our curriculum around 3 key areas of Design and Technology – Textiles, Construction and Food and Nutrition – we ensure the children build on their skills yearly, regardless of which year or class they are in. In mixed-year classes, this means the main strands are met and thoroughly developed each year. Regardless of whether children are staying in the same class, or moving on to their next class, they have met and built on the series of skills with increased confidence and accuracy.

Key language has also been set out for each year group on the skills progression map and builds upon and incorporates the previous years' vocabulary.

DESIGN AND TECHNOLOGY: AGE RELATED STATUTORY COVERAGE	
EYFS Statutory Framework	KEY STAGE ONE
<p>Expressive Arts and Design The development of children’s artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.</p> <p>ELG: Creating with Materials</p> <ul style="list-style-type: none"> • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function • Share their creations, explaining the process they have used • Make use of props and materials when role playing characters in narratives and stories 	<p>Design</p> <ul style="list-style-type: none"> • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking • drawing, templates, mock-ups and ICT <p>Make</p> <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks • Select from and use a wide range of materials and components, including construction materials, textiles, ingredients <p>Evaluate</p> <ul style="list-style-type: none"> • Explore and evaluate a range of existing products • Evaluate ideas / products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> • Build structures, exploring how they can be made stronger, stiffer and more stable • Explore and use mechanisms in their products. • Use the basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from.

DESIGN AND TECHNOLOGY: AGE RELATED STATUTORY COVERAGE

KEY STAGE TWO

Design

- Use research and develop criteria to inform the design of innovative, functional, appealing products that are fit for purpose
- 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 accurately
- Select from and use a wider range of materials and components

Evaluate

- Investigate and analyse a range of existing products
- Evaluate ideas and products against own design criteria and consider the views of others
- Understand how key events and individuals have helped shape the world

Technical knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products
- Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- Apply understanding of computing to program, monitor and control products.
- 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.

Design and Technology Skills Progression	
Expected Standard	
EYFS	
Design	<ul style="list-style-type: none">• Begin to draw on their own experiences to help generate ideas• To begin talking about their design ideas• With support, communicate ideas in different ways• Selects appropriate resources and adapts work where necessary• To know the different uses and purposes of a range of media and materials
Make	<ul style="list-style-type: none">• Make a product for a set purpose• Independently mark out, cut and shape a range of materials• Use tools for their intended purpose
Evaluate	<ul style="list-style-type: none">• Discuss their likes and dislikes relating to their product• Begin to think about amendments that could improve their product• Ask questions of their peers to improve a product• Problem solve and reflect on their designs and creations• Share their creations, explaining the process they have used

Design and Technology Skills Progression		
Expected Standard		
Year 1		
<p>DESIGN</p> <ul style="list-style-type: none"> To draw on their own experience to help generate ideas To suggest ideas and explain what they are going to do To recognise that there are different ways to communicate an idea 	<p>MAKE</p> <ul style="list-style-type: none"> To make their design using appropriate techniques To measure, mark out, cut and shape a range of materials, with help To use tools (eg <i>scissors and a hole punch</i>) safely To use simple finishing techniques to improve the appearance of their product 	
<p>TECHNICAL KNOWLEDGE – TEXTILES</p> <ul style="list-style-type: none"> To know about different printing methods, potato printing, transfer, fabric pens To begin to recognise different types of fabric To explore ideas on existing products, such as logos, prints, designs To explain what tool is best for printing and why To know how each tool is used to create print 	<p>TECHNICAL KNOWLEDGE – CONSTRUCTION</p> <ul style="list-style-type: none"> To talk about the different movements and what mechanisms make it To select from and use a wide range of materials and components: split pins, lollipop sticks, boxes To select from and use tools to join and finish; glue, scissors, cellotape To know about different mechanisms such as: levers, sliders, wheels or axels To understand how you might make a design stronger, stiffer and more stable 	<p>TECHNICAL KNOWLEDGE – FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To understand basic principles of a healthy and varied diet To think of interesting combinations of ingredients To survey favourite foods in class To know the purpose of different tools e.g. mortar and pestle, cake mixer, potato masher, blender To describe textures of food To evaluate the taste of different foods To understand where food comes from To understand why we must wash hands and make sure that surfaces are clean
<p>EVALUATE</p> <ul style="list-style-type: none"> To evaluate their product by discussing how well it works in relation to the purpose To evaluate their products as they are developed, identifying strengths and possible changes they might make To evaluate their product by asking questions about what they have made and how they have gone about it 		
Greater Depth		
<p>TEXTILES</p> <ul style="list-style-type: none"> To use a variety of materials/tools to create prints To create print with a specific theme 	<p>CONSTRUCTION</p> <ul style="list-style-type: none"> To use more than one mechanism To use a range of strong and stable materials 	<p>FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To adjust recipe based on taste To look at and evaluate health factors

Design and Technology Skills Progression		
Expected Standard		
Year 2		
<p>DESIGN</p> <ul style="list-style-type: none"> To generate ideas by drawing on their own and other people's experiences To develop their design ideas through discussion, observation, drawing and modelling To identify a purpose for what they intend to design and make To identify simple design criteria To make simple drawings and label parts 	<p>MAKE</p> <ul style="list-style-type: none"> To begin to select tools and materials; use vocab' to name and describe them To measure, cut and score with some accuracy To use hand tools safely and appropriately To choose and use appropriate finishing techniques 	
<p>TECHNICAL KNOWLEDGE – TEXTILES</p> <ul style="list-style-type: none"> To recognise different designs and functions of a product To continue to recognise different forms of fabric To know different ways to join materials together – glue, sew, cellotape, stapling To know how to make key elements more secure To use a running stitch 	<p>TECHNICAL KNOWLEDGE – CONSTRUCTION</p> <ul style="list-style-type: none"> To choose materials based on their properties To know the appropriate tools to join/stick To understand how to make structures stiffer and stronger To select and use appropriate tools to join materials To select strong and durable materials 	<p>TECHNICAL KNOWLEDGE – FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To discuss what they like to eat in relation to the chosen product To know interesting combinations of ingredients for their themed product To identify the best tool/equipment to perform practical tasks (cutting, blending) To understand the importance of safety when handling tools & teach appropriate skills to use To know appropriate hygiene practises (i.e. hand washing, food handling) To select healthy and varied ingredients To handle food safely and appropriately
<p>EVALUATE</p> <ul style="list-style-type: none"> To evaluate against their design criteria To evaluate existing products to identify functions and purpose To evaluate their products as they are developed, identifying strengths and possible changes they might make To talk about their ideas, saying what they like and dislike about them 		
Greater Depth		
<p>TEXTILES</p> <ul style="list-style-type: none"> To use multiple joining strategies 	<p>CONSTRUCTION</p> <ul style="list-style-type: none"> To create a unique element to their product 	<p>FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To identify health factors of their snacks (calories, sugars, fats, etc.)

Design and Technology Skills Progression		
Expected Standard		
Year 3		
<p>DESIGN</p> <ul style="list-style-type: none"> To generate ideas for an item, considering its purpose and the user/s To identify a purpose and establish criteria for a successful product To plan the order of their work before starting To explore, develop and communicate design proposals by modelling ideas To make drawings with labels when designing 	<p>MAKE</p> <ul style="list-style-type: none"> To select tools and techniques for making their product To measure, mark out, cut, score and assemble components with more accuracy To work safely and accurately with a range of simple tools To think about their ideas as they make progress and be willing change things if this helps them improve their work To use finishing techniques to strengthen and improve the appearance of their product 	
<p>TECHNICAL KNOWLEDGE – TEXTILES</p> <ul style="list-style-type: none"> To know the appropriate stitch to ensure security To know appropriate tools to use when cutting, joining, and finishing To understand how to thread a sewing needle and use a neat, even running stitch To select and use appropriate tools to manipulate materials for e.g. cutting and joining To show an awareness of a range of different fabrics To apply decoration using beads, buttons or feathers 	<p>TECHNICAL KNOWLEDGE – CONSTRUCTION</p> <ul style="list-style-type: none"> To know of appropriate tools to cut materials To know which materials could be used to make their product appealing To understand mechanical systems To choose appropriate tools and join materials 	<p>TECHNICAL KNOWLEDGE – FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To discuss healthy foods To think of an appropriate set-up (crockery, cutlery, utensils) To think of how to present the food (garnish, portion size) To recognise where food comes from by season To understand use of tools when handling/manipulating the ingredients To understand what a healthy balanced diet is To understand/learn how to appropriately use utensils necessary to manipulate the ingredients To select and use a wide range of food To understand and use appropriate handwashing procedures
<p>EVALUATE</p> <ul style="list-style-type: none"> To evaluate their product against original design criteria <i>e.g. how well it meets its intended purpose</i> To disassemble and evaluate familiar products Peer evaluate designs saying something you like 		

Year 3 Greater Depth		
TEXTILES <ul style="list-style-type: none">To think about existing designs and compare/contrast with their own	CONSTRUCTION <ul style="list-style-type: none">To independently include more than one type of mechanism or electrical component in their design	FOOD AND NUTRITION <ul style="list-style-type: none">To create a theme within their foodTo consider a target market (age, gender, etc.)

Design and Technology Skills Progression		
Expected Standard		
Year 4		
<p>DESIGN</p> <ul style="list-style-type: none"> To generate ideas, considering the purposes for which they are designing To make labelled drawings from different views showing specific features To 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 To evaluate products and identify criteria that can be used for their own designs 	<p>MAKE</p> <ul style="list-style-type: none"> To select appropriate tools and techniques for making their product To measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques To use simple graphical communication techniques 	
<p>TECHNICAL KNOWLEDGE – TEXTILES</p> <ul style="list-style-type: none"> To understand use of tools when sewing/weaving (needles, etc.) To understand how to use a sewing needle and how to secure an embellishment onto material To select appropriate materials to use To select appropriate tools to use (needle, glue, etc.) To apply a decoration using a needle and thread To develop a back-stitch skill alongside the running stitch 	<p>TECHNICAL KNOWLEDGE – CONSTRUCTION</p> <ul style="list-style-type: none"> To have an understanding of how to strengthen, stiffen and reinforce more complex structures To know how to create a box for purpose To select and use appropriate tools and materials To appropriately use a mechanism for a set purpose To begin to recognise electrical systems in their product 	<p>TECHNICAL KNOWLEDGE – FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To know the features of a recipe To understand how to use tools for cutting, mixing & rolling To know ingredients typically used in their product/recipe To understand how to use specific preparation tools To begin to understand how to use cooking appliances To recognise ingredients typically used in their product To explore existing recipes in order to create own recipe based on ingredients and health factors To select and use appropriate ingredients according to taste, colour, and texture
<p>EVALUATE</p> <ul style="list-style-type: none"> To evaluate their work both during and at the end of the assignment To evaluate their products carrying out appropriate tests To peer evaluate using 2 stars and a wish 		
Greater Depth		
<p>TEXTILES</p> <ul style="list-style-type: none"> To use a range of materials, considering textures for purpose 	<p>CONSTRUCTION</p> <ul style="list-style-type: none"> Create a switch as part of the product 	<p>FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To create a brand design for their product

Design and Technology Skills Progression		
Expected Standard		
Year 5		
<p>DESIGN</p> <ul style="list-style-type: none"> To generate ideas through brainstorming and identify a purpose for their product To draw up a specification for their design To 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 To use results of investigations, information sources, including ICT when developing design ideas 	<p>MAKE</p> <ul style="list-style-type: none"> To select appropriate materials, tools and techniques To measure and mark out accurately To use skills in using different tools and equipment safely and accurately 	
<p>TECHNICAL KNOWLEDGE – TEXTILES</p> <ul style="list-style-type: none"> To understand the use of different examples of a set product To know about different product designs in order to create a product for a specific user and purpose To know different stitches: running stitch, back stitch, blanket stitch To know different tacking techniques for buttons, material, sequins To demonstrate precision and purpose when modifying threads and fabrics. 	<p>TECHNICAL KNOWLEDGE – CONSTRUCTION</p> <ul style="list-style-type: none"> To know use of a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing] To show an understanding of how to strengthen, stiffen and reinforce a complex structure To understand and use mechanical systems in their products (cams, pulleys, levers, etc.) To use an electrical system in their product 	<p>TECHNICAL KNOWLEDGE – FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To understand how to create a recipe To understand appropriate tools to use (cutting, peeling) To know how to use different cooking techniques (stove, hob, etc.) To understand how to use specific preparation tools To understand how to use cooking appliances appropriately and safely
<p>EVALUATE</p> <ul style="list-style-type: none"> To evaluate a product against the original design specification To evaluate it personally and seek evaluation from others To peer evaluate using 2 stars and a wish against design criteria 		
Greater Depth		
<p>TEXTILES</p> <ul style="list-style-type: none"> To use layered materials for a specific purpose (ie to create a compartment) 	<p>CONSTRUCTION</p> <ul style="list-style-type: none"> To include more than one mechanism in a product 	<p>FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To consider how the dish could be adapted to be hot/cold and the effect on the product

Design and Technology Skills Progression		
Expected Standard		
Year 6		
<p>DESIGN</p> <ul style="list-style-type: none"> To communicate their ideas through detailed labelled drawings To develop a design specification To create a computer-aided design of a product To explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways To plan the order of their work, choosing appropriate materials, tools and techniques To develop design criterion for a specific target group 		<p>MAKE</p> <ul style="list-style-type: none"> To select appropriate tools, materials, components and techniques To assemble components to make working models To use tools safely and accurately To make modifications as they go along To achieve a quality product
<p>TECHNICAL KNOWLEDGE – TEXTILES</p> <ul style="list-style-type: none"> To know of appropriate tools/mechanisms to create the product To have an understanding of how to join materials together To have an understanding of how to tack things on To select and use appropriate tools for their product To select and use appropriate techniques to use for e.g. type of stitching To work in 2d or 3d as required To use different grades of thread and needles 	<p>TECHNICAL KNOWLEDGE – CONSTRUCTION</p> <ul style="list-style-type: none"> To know use of a range of materials To know and understand use of tools and equipment suitable for the task To know how to reinforce/strengthen a 3D framework To understand how certain mechanisms create movement To explore existing products in order to design an annotated sketch of a new idea To successfully use cams, pulleys or levers in order to create movement To use an electrical system in their product, e.g. switches, volatage, bulbs, buzzers, or motors 	<p>TECHNICAL KNOWLEDGE – FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To know what ingredients to use in recipe To know the features needed to write a step-by-step recipe, including a list of ingredients, equipment, and utensils To know which tools and equipment are suitable for cooking specific food item To know how to prepare and cook dishes safely and hygienically To understand how to use specific preparation tools and techniques To select and implement appropriate and safe cooking techniques To prepare and cook dishes safely and hygienically, using appropriate and hygienic food handling procedures
<p>EVALUATE</p> <ul style="list-style-type: none"> To record their evaluations using drawings with labels To evaluate against their original criteria and suggest ways that their product could be improved To peer evaluate against original criteria and suggest an improvement 		
Year 6 – Greater Depth		
<p>TEXTILES</p> <ul style="list-style-type: none"> To consider how to create this product using ‘upcycling’ 	<p>CONSTRUCTION</p> <ul style="list-style-type: none"> To encompass all learning independently when creating and making their design 	<p>FOOD AND NUTRITION</p> <ul style="list-style-type: none"> To consider a menu that this meal would feature in

Provision for Pupils with SEND

Here are some recommendations for ways our Design and Technology curriculum can be adapted to meet the needs of children with SEND. *Please note, this is an example of adaptations and is not an exhaustive list.*

- Word banks for pre-learning and to support during lessons: topic vocabulary, imperative verbs, resource vocabulary
- Children working below ARE could have adapted activities that meet the skills from year groups below their own
- Adult support when working in practical sessions
- Pre-prepared resources when working in practical sessions
- Use a range of methods to record their design and evaluation elements: typing, filming, recording, drawing...
- Group work or paired work to assist each other
- Additional scaffolding activities – 1:1 or small-group
- Adapted tools to suit need and ability



Design and Technology Curriculum – Knowledge and Extended Opportunities

Writing Opportunities may take place within a Design and Technology lesson or within an English lesson. Regardless, if the piece has a D&T focus, the success criteria for the piece will be design-rooted. That said, if a task lends itself well to a teaching opportunity in English, it may be that the teacher chooses to structure and scaffold the writing piece, creating an extended and independent piece of work that interweaves elements from across the curriculum.

The examples of deeper thinking questions are non-exhaustive and just give an example of questions that might be used throughout each Design and Technology topic to give the children further opportunities to share their learning. Teachers will use their discretion when selecting deeper learning questions and they are free to adapt, change or create new questions to support/challenge the children further.

	Possible Writing Opportunities	Deeper Learning Question Examples
EYFS	<ul style="list-style-type: none"> • Labels • Captions • Simple picture instructions 	<ul style="list-style-type: none"> • What is the difference between ____ and ____? • How would I use ____?
Key Stage 1	<ul style="list-style-type: none"> • Factfile • Labels • Captions • Simple picture instructions • Posters • Evaluations • Adverts 	<ul style="list-style-type: none"> • What would happen if ____? • How does ____ change this? • What materials would be the best for ____? • What can you do to improve ____?
Key Stage 2	<ul style="list-style-type: none"> • Instructional writing/recipes • Captions and annotations • Adverts/branding • Instructional writing/recipes • Advertisements • Propaganda posters • Narrative relating to a product • Food reviews 	<ul style="list-style-type: none"> • What are the strengths and weaknesses of ____? • How could I make ____ more economic? • How does ____ affect ____? • How could it be made more environmentally friendly? • How can I make ____ more ergonomic? • What effect would budget have on ____?

Design and Technology Curriculum – Cross Curricular Links and Curriculum Enrichment

Where possible, the individual subjects within our curriculum lend themselves to a variety of cross-curricular or inquiry-based tasks. This gives the children a greater purpose to their learning, making further links to the wider world and to developing the skills they are being taught.

These examples of cross-curricular links are non-exhaustive and just give an example of ways the curriculum subjects can enhance the children’s learning. Teachers will use their discretion when selecting these opportunities, so as to avoid tenuous links, while making the learning purposeful and engaging.

DESIGN AND TECHNOLOGY: Cross-Curricular Links
<ul style="list-style-type: none">• English – the children will develop their writing skills throughout Design and Technology; an example of this is through instructional writing or labelling diagrams• Maths – children will need to be accurate with measurement and have an awareness of shape• Art – children may study and replicate the work of famous artists and architects, using similarities in their Design and Technology work• History/Geography – we use a topic-based approach to teaching and so you will find links to our History and Geography work throughout Design and Technology

DESIGN AND TECHNOLOGY: Curriculum Enrichment
<ul style="list-style-type: none">• School trips to places such as: Sainsbury Centre, Castle Museum, Museum of Norwich, Gressenhall• Visitors in school from a design or technology profession• Outreach activities within the community• Whole-school D&T projects with a common theme or art strand• Parent workshops to create collaborative pieces• After-School or lunchtime D&T clubs