

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
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. ELG: Creating with Materials • 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	Design • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking • drawing, templates, mock-ups and ICT Make • 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 Evaluate • Explore and evaluate a range of existing products • Evaluate ideas / products against design criteria Technical knowledge • 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 • 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 • Make a product for a set purpose • Independently mark out, cut and shape a range of materials • Use tools for their intended purpose Evaluate • 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			
DESIGN - 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		MAKE - To make their design using appropriate techniques - To measure, mark out, cut and shape a range of materials, with help - To use tools (<i>eg scissors and a hole punch</i>) safely - To use simple finishing techniques to improve the appearance of their product	
TECHNICAL KNOWLEDGE – TEXTILES - 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	TECHNICAL KNOWLEDGE – CONSTRUCTION - 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	TECHNICAL KNOWLEDGE – FOOD AND NUTRITION - 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	
EVALUATE - 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			
TEXTILES - To use a variety of materials/tools to create prints - To create print with a specific theme	CONSTRUCTION - To use more than one mechanism - To use a range of strong and stable materials		FOOD AND NUTRITION - To adjust recipe based on taste - To look at and evaluate health factors

Design and Technology Skills Progression		
Expected Standard		
Year 2		
DESIGN - 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		MAKE - 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
TECHNICAL KNOWLEDGE – TEXTILES - 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	TECHNICAL KNOWLEDGE – CONSTRUCTION - 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	TECHNICAL KNOWLEDGE – FOOD AND NUTRITION - 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
EVALUATE - 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		
TEXTILES To use multiple joining strategies	CONSTRUCTION To create a unique element to their product	FOOD AND NUTRITION To identify health factors of their snacks (calories, sugars, fats, etc.)

Design and Technology Skills Progression			
Expected Standard			
Year 3			
DESIGN - 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		MAKE - 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	
TECHNICAL KNOWLEDGE – TEXTILES - 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	TECHNICAL KNOWLEDGE – CONSTRUCTION - 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	TECHNICAL KNOWLEDGE – FOOD AND NUTRITION - 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	
EVALUATE - 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 To think about existing designs and compare/contrast with their own	CONSTRUCTION To independently include more than one type of mechanism or electrical component in their design	FOOD AND NUTRITION - To create a theme within their food - To consider a target market (age, gender, etc.)

Design and Technology Skills Progression		
Expected Standard		
Year 4		
DESIGN - 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		MAKE - 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
TECHNICAL KNOWLEDGE – TEXTILES - 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	TECHNICAL KNOWLEDGE – CONSTRUCTION - 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	TECHNICAL KNOWLEDGE – FOOD AND NUTRITION - 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
EVALUATE - 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		
TEXTILES To use a range of materials, considering textures for purpose	CONSTRUCTION Create a switch as part of the product	FOOD AND NUTRITION To create a brand design for their product

Design and Technology Skills Progression			
Expected Standard			
Year 5			
DESIGN - 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		MAKE - 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	
TECHNICAL KNOWLEDGE – TEXTILES - 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.	TECHNICAL KNOWLEDGE – CONSTRUCTION - 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	TECHNICAL KNOWLEDGE – FOOD AND NUTRITION - 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	
EVALUATE - 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			
TEXTILES To use layered materials for a specific purpose (ie to create a compartment)	CONSTRUCTION To include more than one mechanism in a product	FOOD AND NUTRITION 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		
DESIGN - 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		MAKE - 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
TECHNICAL KNOWLEDGE – TEXTILES - 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	TECHNICAL KNOWLEDGE – CONSTRUCTION - 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	TECHNICAL KNOWLEDGE – FOOD AND NUTRITION - 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
EVALUATE - 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		
TEXTILES To consider how to create this product using ‘upcycling’	CONSTRUCTION To encompass all learning independently when creating and making their design	FOOD AND NUTRITION 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	• Labels • Captions • Simple picture instructions	• What is the difference between ____ and ____? • How would I use ____?
Key Stage 1	• Factfile • Labels • Captions • Simple picture instructions • Posters • Evaluations • Adverts	• What would happen if ____? • How does ____ change this? • What materials would be the best for ____? • What can you do to improve ____?
Key Stage 2	• Instructional writing/recipes • Captions and annotations • Adverts/branding • Instructional writing/recipes • Advertisements • Propaganda posters • Narrative relating to a product • Food reviews	• 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

- **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

- **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**