

D.T. Progression Framework - Core Content

At Star Primary School, we value Design and Technology and the opportunities it provides for our children to be creative and express themselves. This is a key part to the children's entitlement to a broad and balanced curriculum as it is an inspiring, rigorous and practical subject that encourages children to think creatively, to solve problems as individuals and as members of a team. It requires children to be active learners with confidence, to have a go and gain resilience to persist with a project when challenges occur. The Design and Technology curriculum combines skills, knowledge, concepts and values to enable children to tackle real problems. It can improve critical analysis, problem solving, and practical capability and evaluation skills. their learning. Most of all we hope that DT fosters enjoyment, satisfaction and purpose in designing and making.

Curriculum:

Article 13 You have the right to find out things and share what you think with others by talking, drawing, writing or in any other way unless it harms or offends people.

Article 24 You have the right to the best health care possible, safe water to drink, nutritious food, a clean and safe environment and information to help you stay well.

Article 29 Your education should help you use and develop your talents and abilities. It should also help you learn to live peacefully, protect the environment and respect other people

Core Strands:

- Processes
- Cooking and Nutrition



Curriculum Offer:

Intention	Implementation	Impact
<p>Design and Technology at Star is inspiring, rigorous and practical encouraging all pupils to think independently, solve problems and develop their creativity. We encourage pupils to have a growth mindset to design and make products that solve real and relevant global issues. Through a topic-based rights curriculum, we aim to make links with other subjects for example, mathematics, science, the arts, computing and engineering. We want Star pupils to be resilient in their design and technology learning implementing coping strategies when the outcome of their products are not what they expected. Our pupils are given opportunities to be reflective, critical evaluators and are encouraged to design innovatively and take risks in their learning.</p>	<p>Through a range of creative and practical activities, we give pupils core knowledge, support in practising skills and assistance to develop a deeper understanding of the design world and industries. Using a research-based approach to planning and teaching, each unit follows a clear learning cycle: research, design, make and evaluate. In KS1 children build structures, exploring how they can be made stronger, stiffer and more stable coupled with using mechanisms such as levers, sliders, wheels and axles, in their products. In KS2 children apply their knowledge to more complex structures and use mechanical systems for example, gears, pulleys, cams and levers. In addition, our staff plan opportunities for all pupils to develop their technical knowledge of complex structures, mechanical and electrical systems as well as applying their understanding of computing to programme and control their products. Within cooking and nutrition children learn where food comes from and use the principles of a healthy and varied diet to prepare dishes. Deepening their knowledge of where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>Star pupils learn to become risk takers, think sustainably, be innovative, enterprising and capable global citizens. Their success is celebrated through assemblies, home-learning projects and having their work displayed. Through planned and purposeful evaluation activities, pupils develop a critical understanding of design and technology and how it impacts on not only their daily life but the lives of others. The high-quality design and technology curriculum at Star means that all pupils make a significant contribution to the world of creativity, culture and enterprise promoting STEM subjects as future career pathways.</p>
Enrichment		<p>Children at Star Primary are given many enrichment opportunities as part of the wider curriculum for example a design and technology club and bespoke design and technology days. Children are trained to become design and technology leaders and have responsibilities relating to the subject across the whole school.</p>



Curriculum Progression - Core Content							
Focus	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Processes	<ul style="list-style-type: none"> -Explore materials freely in order to develop their ideas about how to use them and what to make -Develop their own ideas and then decide which materials to use and express them -Join different materials and explore different textures -Create closed shapes with continuous lines and begin to use shapes to represent objects -Create collaboratively sharing ideas and resources -Safely use and explore a variety of materials, tools and techniques experimenting with design, texture, form and function 	<ul style="list-style-type: none"> - To create simple designs <ul style="list-style-type: none"> - Use pictures and words to describe what he/she wants to do - Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing -Use a range of simple tools to cut, join and combine materials and components safely -Ask simple questions about existing products and those that he/she has made -Build structures, exploring how they can be made stronger, stiffer and more stable 	<ul style="list-style-type: none"> =Design purposeful, functional, appealing products for himself/herself and other users based on design criteria -Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock ups and, where appropriate information and communication technology -Choose appropriate tools, equipment, techniques and materials from a wide range -Safely measure, mark out, cut and shape materials and components using a range of tools 	<ul style="list-style-type: none"> -Use knowledge of existing products to design his/her own functional product <ul style="list-style-type: none"> -Create designs using annotated sketches, cross sectional diagrams and simple computer programmes -Safely measure, mark out, cut, assemble and join with some accuracy -Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them -Investigate and analyse existing products and those he/she has made, considering a wide range of factors 	<ul style="list-style-type: none"> -Use knowledge of existing products to design functional and appealing products for a particular purpose and audience <ul style="list-style-type: none"> -Create designs using exploded diagrams -Use techniques which require more accuracy to cut. Shape, join and finish his/her work e.g cutting internal shapes, slots in frameworks -Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them -Consider how existing products and his/her own finished products might be 	<ul style="list-style-type: none"> -Use his/her knowledge of existing products and use his/her market research to inform the design of his/her own innovative product <ul style="list-style-type: none"> =Create prototypes to show his/her ideas -Make careful and precise measurements so that joins, holes and openings are in exactly the right place -Produce step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques -Make detailed evaluations about existing products and his/her own considering the 	<ul style="list-style-type: none"> -Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative product <ul style="list-style-type: none"> -Generate, develop, model and communicate ideas through discussion, annotated sketches, cross - sectional and exploded diagrams, prototypes, pattern pieces and computer aided design -Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities -Use technical knowledge



	<ul style="list-style-type: none"> -Share their creations, explaining the process they have used 	<ul style="list-style-type: none"> -Use wheels and axles in a product 	<ul style="list-style-type: none"> -Evaluate and assess existing products and those that he/she has made using a design criteria -Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable -Explore and use mechanisms e.g levers, sliders, wheels and axles in his/her products 	<ul style="list-style-type: none"> -Strengthen frames using diagonal struts -Understand how mechanical systems such as levers and linkages or pneumatic systems create movement 	<ul style="list-style-type: none"> improved and how well they meet the needs of the intended user -Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas -Understand and use electrical systems in products 	<ul style="list-style-type: none"> views of others to improve his/her work -Build more complex 3 D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable -Understand how to use more complex mechanical and electrical systems 	<ul style="list-style-type: none"> accurate skills to problem solve during the making process -Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made -Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately =Apply his/her understanding of computing to program, monitor and control his/her product
--	---	--	---	---	--	---	---



Curriculum Progression - Core Content							
Focus	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cooking and Nutrition	<ul style="list-style-type: none"> -Start to eat independently and learning how to use a knife and fork -Make healthy choices about food and drink -Know and talk about the different factors that support their overall health and well being: healthy eating -Make comparisons between objects relating to size, length, weight and capacity -Compare length, weight and capacity -Compare quantities up to 10 in different contexts -Learn new vocabulary 	<ul style="list-style-type: none"> -Talk about what he/she eats at home and begin to discuss what healthy foods are -Say where some food comes from and give examples of food that is grown -Use simple tools with help to prepare food safely 	<ul style="list-style-type: none"> -Understand the need for a variety of food in a diet -Understand that all food has to be farmed, grown or caught -Use a wider range of cookery techniques to prepare food safely 	<ul style="list-style-type: none"> -Talk about the different food groups and name food from each group -Understand that food has to be grown, farmed or caught in Europe and the wider world -Use a wider variety of ingredients and techniques to prepare and combine ingredients safely 	<ul style="list-style-type: none"> -Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body need to be healthy -Understand seasonality and the advantages of eating seasonal and locally produced food -Read and follow recipes which involve several processes, skills and techniques 	<ul style="list-style-type: none"> -Understand the main food groups and the different nutrients that are important to health -Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat -Select appropriate ingredients and use a wide range of techniques to combine them 	<ul style="list-style-type: none"> -Confidently plan a series of healthy meals based on the principles of a healthy and varied diet -Use information on food labels to inform choices -Research, plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills



In the Classroom						
	Human Rights	Media Mayhem	The Earth Our Home	Express Yourself	Global Treasures	Healthy Hearts
EYFS	(Nur) Can I explore materials freely in order to develop my ideas? (Rec) Can I manipulate materials to achieve a planned effect?	(Nur) Can I use one handed tools and equipment with increasing control? (Rec) Can I safely use and explore a variety of materials, tools and techniques?	(Nur) Can I handle tools, objects, construction and malleable materials safely and with increasing control? (Rec) Can I select tools and techniques needed to shape, assemble and join materials I am using?	(Nur) Can I use simple tools to effect changes to materials? (Rec) Can I use what I have learnt about media and materials in original ways?	(Nur) - Can I develop my own ideas and then decide which materials to use? (Rec) -Can I share my creations, explaining the process I have used?	(Nursery) Can I make observations of animals and plants? (Rec) Do I know the importance for good health and physical exercise?
Year One	No D.T.	How can I design, make and evaluate a kite?	No D.T.	No D.T.	How can I design, make and evaluate a wheeled Victorian toy?	How can I design, make and evaluate a teddy bears picnic?
Year Two	No D.T.	How can I design, make and evaluate a fire engine?	No D.T.	No D.T.	How can I design, make and evaluate a tote bag for a train driver?	How can I design, make and evaluate a perfect pizza?
Year Three	No D.T.	How can I design, make and evaluate a moving Pharaoh?	No D.T.	No D.T.	How can I design, make and evaluate an Iron Age coracle boat?	How can I design, make and evaluate a sandwich snack?
Year Four	No D.T.	How can I design, make and evaluate a light up sign?	No D.T.	No D.T.	How can I design and make and evaluate a Roman chariot?	How can I design, make and evaluate a dish using seasonal food?
Year Five	No D.T.	How can I design, make and evaluate a toy WW11 moving machine?	No D.T.	No D.T.	How can I design, make and evaluate a Saxon catapult?	How can I design, make and evaluate bread?
Year Six	No D.T.	How can I design, make and evaluate an Ancient Greek building?	No D.T.	No D.T.	How can I design, make and evaluate a Mayan woven blanket?	How can I design, make and evaluate a Great British Dish?

