



Onslow Infant School

Design Technology Knowledge & Skills

Reception—Year 2

Curriculum Intent

Our DT curriculum inspires children to be creative and practical problem solvers. From EYFS to KS1, children are given opportunities to explore how things work, design and make purposeful products, and develop confidence in using tools and materials.

Through exploring mechanisms, structures, textiles and food, children learn how things work and how they can improve the world around them. Our curriculum builds early technical knowledge and design skills, preparing pupils for confident progression into KS2.

Children will also develop the life skills and knowledge associated with healthy living, food nutrition and cookery. Alongside technical knowledge, children also apply cross curricular skills from maths, science and art to design, make and evaluate products.

Curriculum Implementation

DT is taught through practical projects, often linked to wider curriculum themes to give learning context and purpose. DT learning begins in EYFS through play-based exploration, construction, junk modelling and imaginative design. Children develop early skills such as joining, building, selecting materials and talking about their ideas.

In KS1 using the design, make, evaluate process, DT becomes more structured with children learning to design purposeful products, use simple tools and materials safely, explore mechanisms, structures and food preparation and evaluate their work. Technical vocabulary and evaluation skills are modelled and embedded. Continuous provision also provides opportunities for children to develop, test and refine skills they have learned independently. High standards are promoted in a nurturing and supportive environment where effort and achievement are celebrated.

Curriculum Impact

By the end of KS1, children are confident, curious learners who enjoy creating and problem-solving. They can design, make and evaluate simple products, work collaboratively and talk about their learning using appropriate vocabulary. Our curriculum helps our children develop creativity, resilience and independence, preparing them with essential skills for KS2.

Assessment is based on observation, pupil voice and evidence in books. We encourage the children to talk - in pairs, small groups or through class discussion, to share ideas and reflections. Summative and formative assessments are recorded on Tapestry, often with photographs of children's products in different stages of the design and making process. Data is analysed and acted upon by subject leaders and staff to ensure progress and development for all. Monitoring includes work scrutiny, learning walks and pupil interviews.

Contents



1. Reception

- *including continuous provision*

2. KS1: *Design, Make, Evaluate & Technical Knowledge*

3. KS1: **Cooking & Nutrition**

**In curriculum design, knowledge and skills are not interchangeable in the sense that they are directly synonymous, but rather interconnected and interdependent. Knowledge serves as the foundation for developing skills, while skills require knowledge*

Reception

Content	Pupils will learn		Retrieval (Last lesson, unit, year)	Key Vocabulary
	Knowledge	Skills		
What is DT?	<ul style="list-style-type: none"> DT Dragonfly – how to be a designer. DT is making things with a purpose. What resources can be used for DT in the classroom. 	<ul style="list-style-type: none"> Explore a variety of materials, tools and techniques to create simple products. Work collaboratively with others to create simple DT projects. How to cut a flap to create an opening. 	Pre-unit questioning: what do they know already?	<i>DT, design, technology, resources, tools, flap</i>
How can you join using split pins?	<ul style="list-style-type: none"> Split pins can be used to join materials together and allow movement. 	<ul style="list-style-type: none"> Manipulate split pins to join 2 pieces of material e.g. make a hole first, use blu-tac to press a pencil into the material, overlap both parts, push pin through and separate it. 	DT Dragonfly Classroom resources Flap opening	<i>split pin, join</i>
How do we bake safely? <i>*cooking & nutrition</i>	<ul style="list-style-type: none"> Food hygiene: the importance of washing your hands before handling food and ingredients. To know that recipes are used in baking using different ingredients. 	<ul style="list-style-type: none"> Measure and mix ingredients. Practise basic cooking skills e.g. roll, cut, scoop, pour, spread. 	DT Dragonfly	<i>ingredients, recipe, measure, weigh, mix</i>
How can you join using a flange?	<ul style="list-style-type: none"> The purpose of a flange join is to connect 2 materials together. To know the basic materials needed to make a flange join (paper/cardboard, glue/tape). 	<ul style="list-style-type: none"> How to use scissors to make small, even cuts. How to fold each section to create a stable base. Use glue/tape to join 2 pieces of paper/cardboard together. 	Split pin joins Flap opening	<i>flange, materials</i>
What is healthy eating? <i>*cooking & nutrition</i>	<ul style="list-style-type: none"> Understand that there are different food groups. Some food is healthier than others. 	<ul style="list-style-type: none"> Identify different food on the Eatwell Plate. Sort foods into groups (fruits, vegetables, etc). 	Food hygiene	<i>healthy, sort, groups</i>

Reception skills and knowledge developed through continuous provision across the year:

Design, Make, Evaluate & Technical Knowledge:

Workshop:

- * Glue: Using glue sticks then PVA glue and spreaders. Sellotape: Using masking tape then Sellotape.
- * Scissors: Children taught how to hold scissors correctly. Cutting lines, then shapes, then other materials.
- * Joining materials in different ways. Developing more complex tearing, folding and scrunching techniques.
- * Exploring different materials e.g. fabric, paper, card, string, wood, plastic, feathers.
- * Explore how things work and choose the right resources to make a model e.g. bottle tops for wheels.
- * Progressing to making models that represent the real thing by adding features and decoration.
- * Build simple structures, exploring how they can be made stronger, stiffer and more stable.
- * Stacking materials vertically and horizontally. Making enclosures and creating spaces.
- * Uses simple tools to effect changes to materials.

Construction:

- * Creating models with moving parts using large and small construction resources.
- * Designing and evaluating models using a 'construction book'.
 - * More complex structures with understanding of pattern, shape and balance. More complex construction kits available to explore. Opportunities to build on large scale outdoors with loose parts. Den building from variety of resources.
- Develop their fine motor skills so that they can use a range of tools competently, safely and confidently. e.g. playdough, threading, peg boards, cutting. Using one handed tools with control
- Use playdough to roll, cut, shape and create marks using playdough tools.
- Working alongside others – discussing what they have made and why. Discussing what they like and don't like. Suggest how their peers could improve their models.
- Collaboration with peers on shared projects in addition to individual creations.
- Planning, making decisions about how to approach a task, solve a problem and reach a goal. Checking how well their activities are going. Testing their ideas.
- Having time to return to unfinished projects.
- Developing independence in preparing and clearing away resources.
- Having opportunity to display their creations for others to see.
- Being active outdoors, constructing with loose parts, crates, planks, cardboard boxes, large wooden blocks.
- Using the language of designing and making e.g. join, build, heavier, lighter.
- Opportunities to talk about what makes activities safe or unsafe e.g. hygiene or when using tools.
- Threading with a variety of fine motor resources.

Cooking & Nutrition:

- Reading stories linked to healthy eating. Books available in the book corner about healthy eating. Recipe books in the role play area.
- Exploring where different food comes from linked to animals (eggs, meat, cheese, bread, fish).
- Washing hands before accessing the snack bar. Selecting from fruit/veg and dry snacks, and milk.
- Use cutlery with playdough to practise cutting in preparation for cooking techniques.
- Home corner: acting out cooking using toy food, pots and pans, utensils etc.

Year 1: Design, Make, Evaluate & Technical Knowledge

Content	Pupils will learn		Retrieval (Last lesson, unit, year)	Key Vocabulary
	Knowledge	Skills		
Design and make a simple mock-up of a sliding mechanism	<ul style="list-style-type: none"> Understand the basic purpose and function of a sliding mechanism Know that sliding mechanisms allow an object to move backwards and forwards 	<ul style="list-style-type: none"> Experiment with simple materials to create a sliding mechanism (e.g. card, paper, masking tape) Make a hole safely Design and make a simple mock-up of a sliding mechanism in card Test and evaluate the effectiveness of their sliding mechanism 	<p>Joins from YR</p> <p>Why is it useful to look at examples before you design your own</p>	<i>Slider, mechanism, mock-up</i>
Design and make a simple mock-up of a pivot mechanism	<ul style="list-style-type: none"> Understand how a pivot mechanism works and how it can be used to create movement in a design Identify the key components of a pivot mechanism (e.g., pivot point, moving parts) Identify how a pivot mechanism differs from a slide 	<ul style="list-style-type: none"> Explore and experiment with different materials to create a simple pivot mechanism (e.g., paper fasteners, split pins, etc.) Follow basic instructions to assemble a simple pivot mechanism Design a simple model or mock-up that incorporates a pivot mechanism Construct a working pivot mechanism, selecting appropriate materials and tools Evaluate the effectiveness of the pivot mechanism in their design 	What is a slider used for?	<i>pivot, pivot point, evaluate, effective</i>
Make a model	<ul style="list-style-type: none"> Know that mechanisms can be used to make parts of a model move (e.g. levers, sliders) Understand how to strengthen and reinforce structures to make them more stable Know how to select appropriate materials and mechanisms to create specific features and movements in a model 	<ul style="list-style-type: none"> Use a range of materials to create the basic structure (e.g. cardboard, paper, lolly sticks) Construct a model with working mechanisms Evaluate the effectiveness of the mechanisms and suggest improvements. 	What is a pivot used for? Give an example.	<i>lever, reinforce, stable,</i>

Make a model vehicle	<ul style="list-style-type: none"> • Know that the basic parts of a moving vehicle are a wheel and axle 	<ul style="list-style-type: none"> • Experiment with large construction toys to build a moving vehicle 	Name two mechanisms	<i>axle</i>
Design a textile product	<ul style="list-style-type: none"> • Understand the purpose of a product and who it is aimed at. 	<ul style="list-style-type: none"> • Explore a range of materials to create a textile product (eg. felt, fabric scraps, googly eyes, pom poms) • Use basic joining techniques (eg. glueing, running stitch) to assemble a simple textile product. • Design a suitable product. 	What does an axle do?	<i>textile, assemble, running stitch</i>
Make a textile product	<ul style="list-style-type: none"> • Know how to select appropriate materials and embellishments to create a desired effect • Know how to evaluate against a set of given success criteria 	<ul style="list-style-type: none"> • Select and use appropriate materials and techniques (e.g. sewing, stuffing) to create a more detailed product. • Evaluate their finished product in terms of purpose and person. 	How could you join these materials?	<i>Purpose, success criteria</i>

Year 2: Design, Make, Evaluate & Technical Knowledge

Content	Pupils will learn		Retrieval (Last lesson, unit, year)	Key Vocabulary
	Knowledge	Skills		
What makes an effective and useful moving vehicle?	<ul style="list-style-type: none"> Know the basic components of a moving vehicle (wheels, chassis, steering mechanism) Understand how the design of a vehicle affects its ability to move over different terrains 	<ul style="list-style-type: none"> Explore different materials and their properties (e.g. stiffness, flexibility) Evaluate existing moving vehicles 	What are the basic parts of a moving vehicle?	<i>Stability, movement, axle</i>
How to design a moving vehicle prototype	<ul style="list-style-type: none"> Understand the basic purpose and function of a wheel and axle system Understand how the design of vehicle needs to consider the terrain Know that wheels and axles can be made from different materials (wood, plastic, metal, etc.) 	<ul style="list-style-type: none"> Generate simple design ideas for a moving vehicle Select appropriate materials and plan how to join them effectively 	Name three mechanisms	<i>lightweight, durable terrain, prototype</i>
How to make a moving vehicle prototype	<ul style="list-style-type: none"> Understand how the components of a moving vehicle work together Know different methods of joining materials (adhesives, flange, flap, l – brace etc) Know how to safely use a saw to cut materials to size 	<ul style="list-style-type: none"> Use a saw to cut materials to size Use a variety of joining techniques Use a variety of adhesives to attach features To make an appropriately sized hole in cardboard for the axle in a precise location 	What materials can wheels and axles be made from?	<i>adhesive</i>
Did your moving vehicle prototype meet the success criteria and how could you make it better?	<ul style="list-style-type: none"> Understand the parameters of a fair test Evaluate against a set of given success criteria 	<ul style="list-style-type: none"> Test and evaluate their moving vehicle, identifying strengths and areas for improvement Evaluate their finished product in terms of purpose and person 	What can split pins be used for?	<i>function</i>

<p>Design a textile product with a fastener</p>	<ul style="list-style-type: none"> • Understand the purpose of textile fastenings eg. poppers, hook + eye, zips, buttons. 	<ul style="list-style-type: none"> • Explore a range of fastenings. • Experiment with different fasteners and evaluate which one is most effective using back and forth stitch. 	<p>Name two different textiles</p> <p>What tools do you use to sew?</p>	<p><i>Fastenings, hook and eye</i></p>
<p>Make a textile product with a fastener</p>	<ul style="list-style-type: none"> • Know how to select the more appropriate fastener. 	<ul style="list-style-type: none"> • Use needle and thread to attach a button with back and forth stitch. 	<p>What tools do you find in a sewing kit?</p>	<p><i>Back and forth stitch</i></p>

Year 1: Cooking & Nutrition

Content	Pupils will learn		Retrieval (Last lesson, unit, year)	Key Vocabulary
	Knowledge	Skills		
Design a healthy snack	<ul style="list-style-type: none"> Understand what different food groups contribute to a healthy and varied diet 	<ul style="list-style-type: none"> Identify healthy foods Devise a list of healthy ingredients Evaluate ready-made snacks and identify healthy ingredients 	Name five foods on Eatwell Plate	<i>varied, diet</i>
Make and evaluate snack	<ul style="list-style-type: none"> Understand why it is important to wash hands and be hygienic when preparing food. Understand how to sequence the steps needed to prepare a snack 	<ul style="list-style-type: none"> Prepare simple dishes with support - Use basic cooking techniques such as slicing, mixing, and spreading Use tools and equipment safely to prepare ingredients Evaluate their snack against the original design 	What do you need to follow if you are baking? Why do we need to wash our hands before cooking?	<i>hygiene, prepare, utensils</i>
Which is the tastiest savoury dish?	<ul style="list-style-type: none"> Understand that food products are designed and made for a purpose and comes from different sources. Understand that everyone has different preferences when it comes to taste and flavour 	<ul style="list-style-type: none"> Explore existing products Identify the key ingredients in the products Express your own preference 	What healthy snacks have you made at school? What utensils did you use to make your snack?	<i>preference, savoury</i>
Make and evaluate a savoury dish	<ul style="list-style-type: none"> Understand how to independently follow a recipe. Understand which tool is needed to change the texture and consistency of an ingredient 	<ul style="list-style-type: none"> Prepare simple dishes Use basic cooking techniques such as cutting, mixing, mashing and chopping Follow safe food practices when preparing ingredients Suggest ways in which their products could be improved or adapted 	Which savoury dish did you prefer and why? What do you need to follow if you are baking?	<i>Improve, adapt, consistency, texture</i>

<p>Where does our food come from?</p>	<ul style="list-style-type: none">• Understand that food comes from plants and animals• Identify a variety of fruit and vegetables	<ul style="list-style-type: none">• Sort foods into groups based on where they come from (plant or animal)• Identify the parts of a plant that we eat (eg. roots, leaves, fruits)	<p>What food can you get from a farm? What is the difference between a tool and ingredient?</p>	<p><i>grow, rear, catch</i></p>
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Year 2: Cooking & Nutrition

Content	Pupils will learn		Retrieval (Last lesson, unit, year)	Key Vocabulary
	Knowledge	Skills		
How do you make bread?	<ul style="list-style-type: none"> Understand how the process of kneading and proving helps the bread to rise 	<ul style="list-style-type: none"> Measure, weigh and mix ingredients independently Knead the dough Evaluate the taste, texture and size of the finished bread rolls 	Name two things you do when preparing food	<i>yeast, knead, prove, rise</i>
What is a healthy balanced diet?	<ul style="list-style-type: none"> Understand the importance of eating a variety of foods from each food group in the right amounts Know that some foods should be eaten in moderation (e.g. sugary, fatty foods) 	<ul style="list-style-type: none"> Plan a meal that includes foods from different food groups Explain why it's important to have a balanced diet 	How do you make bread? What healthy snacks did you make in Year One?	<i>balance, nutrition, portion, carbohydrates, protein, dairy, fats, oils, moderation</i>
How to design a healthy snack	<ul style="list-style-type: none"> Understand the importance of a balanced diet and how the five food groups contribute to this 	<ul style="list-style-type: none"> Plan a healthy wrap by selecting appropriate ingredients from the five food groups Explain how the chosen ingredients contribute to a balanced diet Generate useful success criteria 	What are the five main food groups? What is the purpose of success criteria?	
How to make a healthy snack	<ul style="list-style-type: none"> Understand which utensil is most appropriate for each ingredient Understand the most effective technique to use for each utensil 	<ul style="list-style-type: none"> Can use a grater and peeler Use safe cutting techniques 	How can home cooking help us to be healthy? What utensils might you find in a kitchen?	<i>claw, bridge, grater, peeler</i>
Did your snack meet the success criteria?	<ul style="list-style-type: none"> Understand how different ingredients contribute to taste and texture 	<ul style="list-style-type: none"> Evaluating a healthy snack against success criteria (balanced diet, layering, taste, texture) Suggesting improvements to make the snack healthier or more appealing 	Where can our food come from? What texture do you prefer?	