

HEELANDS SCHOOL

DESIGN AND TECHNOLOGY PROGRESSION MAP

Intent

PlanIt Design and Technology offers a coherently planned sequence of lessons to help teachers ensure they have progressively covered the knowledge, understanding and skills required in the National Curriculum. PlanIt Design and Technology aims to inspire children through a broad range of practical experiences to create innovative designs which solve real and relevant problems within a variety of different contexts. The iterative design process is fundamental and runs throughout the PlanIt units. This iterative process encourages children to identify real and relevant problems, critically evaluate existing products and then take risks and innovate when designing and creating solutions to the problems. As part of the iterative process, time is built in to reflect, evaluate and improve on prototypes using design criteria throughout to support this process. Opportunities are provided for children to evaluate key events and individuals who have helped shape the world, showing the real impact of design and technology on the wider environment and helping to inspire children to become the next generation of innovators.

Implementation

Design and Technology skills and understanding are built into lessons, following an iterative process. However, this is not to say that this structure should be followed rigidly: it allows for the revision of ideas to become part of good practice and ultimately helps to build a depth to children's understanding. Through revisiting and consolidating skills, our lesson plans and resources help children build on prior knowledge alongside introducing new skills, knowledge and challenge. We suggest a specific series of lessons for each key stage, which offer structure and narrative but are by no means to be used exclusively, rather to support planning. The revision and introduction of key vocabulary is built into each lesson. This vocabulary is then included in display materials and additional resources to ensure that children are allowed opportunities to repeat and revise this knowledge. Adult guides and accurate design and technology subject knowledge are always provided within lessons to allow the teacher and adults working in those lessons to feel confident and supported with the skills and knowledge that they are teaching. Through these lessons, we intend to inspire pupils and practitioners to develop a love of Design and Technology and see how it has helped shaped the ever-evolving technological world they live in.

Impact

The impact of using the full range of resources, including display materials, will be seen across the school with an increase in the profile of Design and Technology. The learning environment across the school will be more consistent with design and technology technical vocabulary displayed, spoken and used by all learners. Whole-school and parental engagement will be improved through the use of design and technology-specific home learning tasks and opportunities suggested in lessons and overviews for wider learning. We want to ensure that Design and Technology is loved by teachers and pupils across school, therefore encouraging them to want to continue building on this wealth of skills and understanding, now and in the future. Impact can also be measured through key questioning skills built into lessons, child-led assessment such as success criteria grids, jigsaw targets and KWL grids and summative assessments aimed at targeting next steps in learning.

Level Expected at the End of EYFS

We have aimed to select the Early Learning Goals that link most closely to the Design and Technology National Curriculum

For more detail about linked subject progression within the EYFS Framework, please refer to [these documents](#).

Expressive Arts and Design (Exploring and Using Media and Materials)

Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Expressive Arts and Design (Being Imaginative)

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

Physical Development (Moving and Handling)

Children handle equipment and tools effectively, including pencils for writing.

Key Stage 1 National Curriculum Expectations

Design

Pupils should be taught to:

- design purposeful, functional, appealing products for themselves and other users based on design criteria;
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make

Pupils should be taught to:

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing];
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate

Pupils should be taught to:

- explore and evaluate a range of existing products;
- evaluate their ideas and products against design criteria.

Technical Knowledge

Pupils should be taught to:

- build structures, exploring how they can be made stronger, stiffer and more stable;
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking and Nutrition

Pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes;
- understand where food comes from.

	EYFS	EYFS Expectations	Year One	Year Two	End of Key Stage Expectation
Design	<p>Can I think of some ideas on my own?</p> <p>Can I use pictures and words to plan?</p> <p>Can I design a product for myself following design Criteria?</p>	<p>Expressive Arts and Design (Exploring and Using Media and Materials)</p> <p>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Can I think of some ideas on my own?</p> <p>Can I explain what I want to do?</p> <p>Can I describe my design by using pictures, models mock ups and words?</p> <p>Can I design a product for myself and others following design criteria?</p>	<p>Can I think of ideas and plan what to do next?</p> <p>Can I choose the best tools and materials?</p> <p>Can I give a reason why these are best tools or material?</p> <p>Can I describe my design by using pictures, diagrams model mock ups, words and ICT?</p> <p>Can I design a product for others</p>	<p>KS1 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p> <p>Children design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Children can:</p> <ul style="list-style-type: none"> a use their knowledge of existing products and their own experience to help generate their ideas; b design products that have a purpose and are aimed at an intended user; c explain how their products will look and work through talking and simple annotated drawings; d design models using simple computing software; e plan & test ideas using templates & mock-ups; f understand and follow simple design criteria; g work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.

<p style="writing-mode: vertical-rl; transform: rotate(180deg); text-align: center;">Make</p>	<p>Can I explain what I am making?</p>	<p>Expectations Expressive Arts and Design (Exploring and Using Media and Materials)</p>	<p>Can I explain what I am making and why?</p>	<p>Can I explain what I am making and why my audience will like it?</p>	<p>KS1 Design and Technology National Curriculum</p>
	<p>Can I select tools and equipment to cut, shape, join and finish?</p>	<p>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Can I select tools and equipment to cut, shape, join and finish?</p>	<p>Can I join things (materials/components) together in different ways?</p>	<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.</p>
<p>Can I choose the right material?</p>	<p>Expressive Arts and Design (Being Imaginative)</p>	<p>Can I describe which tools I am using and why?</p>	<p>Can I choose materials and explain why they are being used depending on their characteristics?</p>	<p>Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p>	
	<p>Children use what they have learnt about media and materials in original ways, thinking about the uses and purposes. They represent their own ideas, through and feelings through design and technology.</p>	<p>Can I design a product for myself and others following design criteria?</p>		<p>They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	
	<p>Physical Development (Moving and Handling)</p>			<p>Children can:</p>	
	<p>Children handle equipment and tools effectively, including pencils for writing.</p>			<p>Planning</p>	
				<p>a with support, follow a simple plan or recipe;</p>	
				<p>b begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer;</p>	
				<p>c select from a range of materials, textiles and components according to their characteristics;</p>	
				<p>Practical skills and techniques</p>	
				<p>d learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures;</p>	
				<p>e use a range of materials and components, including textiles and food ingredients;</p>	
				<p>f with help, measure and mark out;</p>	
				<p>g cut, shape and score materials with some accuracy;</p>	
				<p>h assemble, join and combine materials, components or ingredients;</p>	
				<p>i demonstrate how to cut, shape and join fabric to make a simple product;</p>	
				<p>j manipulate fabrics in simple ways to create the desired effect;</p>	
				<p>k use a basic running stitch;</p>	
				<p>l cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups;</p>	
				<p>m begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.</p>	

Evaluate	<p>Can I talk about my own work?</p> <p>Can I talk about existing products and say what is good and not so good about them?</p>	<p>EYFS Expectations Expressive Arts and Design (Being Imaginative)</p> <p>Children use what they have learnt about media and materials in original ways, thinking about the uses and purposes. They represent their own ideas, through and feelings through design and technology.</p>	<p>Can I describe how existing products work?</p> <p>Can I talk about my own work linked to what I was asked to do?</p> <p>Can I talk about my own work and things that other people have done?</p>	<p>Can I describe what went well with my work?</p> <p>Can I evaluate what I would do differently if I did it again and why?</p> <p>Can I judge my work against the design criteria?</p>	<p>KS1 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing & making.</p> <p>Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria. Children can:</p> <ol style="list-style-type: none"> a explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; b explain positives and things to improve for existing products; c explore what materials products are made from; d talk about their design ideas and what they are making; e as they work, start to identify strengths and possible changes they might make to refine their existing design; f evaluate their products and ideas against their simple design criteria; g start to understand that the iterative process sometimes involves repeating different stages of the process.
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Technical Knowledge	<p>Construction</p> <p>Can I say how to make productions stronger?</p> <p>Can I use levers or slides in my work?</p>	<p>EYFS Expectations Expressive Arts and Design (Exploring and Using Media and Materials)</p> <p>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Expressive Arts and Design (Being Imaginative)</p> <p>Children use what they have learnt about media and materials in original ways, thinking about the uses and purposes. They represent their own ideas, through and feelings through design and technology.</p> <p>Physical Development (Moving and Handling)</p> <p>Children handle equipment and tools effectively, including pencils for writing.</p>	<p>Use of materials</p> <p>Can I measure materials to use in a model or structure?</p> <p>Can I join materials in different ways?</p> <p>Can I use joining, folding or rolling to make it stronger?</p> <p>Can I use levers or slides in my work?</p> <p>Textiles:</p> <p>Can I practise my threading skills?</p> <p>Can I explore different textiles?</p> <p>Can I cut textiles?</p>	<p>Mechanisms:</p> <p>Can I join materials together as part of a moving product?</p> <p>Can I add a specific design to my product?</p> <p>Can I use axels and wheels in my work?</p> <p>Textiles:</p> <p>Can I explain why they choose a certain textile?</p> <p>Can I join textiles together to make something?</p> <p>Can I measure textiles?</p>	<p>KS1 Design and Technology National Curriculum</p> <p>Children build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> <p>Children can:</p> <ol style="list-style-type: none"> a build simple structures, exploring how they can be made stronger, stiffer and more stable; b talk about and start to understand the simple working characteristics of materials and components; c explore and create products using mechanisms, such as levers, sliders and wheels.
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Cooking and Nutrition	<p>Can I describe the texture of foods?</p> <p>Can I wash my hands and make sure that surfaces are clean?</p> <p>Can I think of interesting ways of decorating food they have made? eg cakes?</p>	<p><u>EYFS Expectations</u></p> <p>Physical Development (Moving and Handling) Children handle equipment and tools effectively, including pencils for writing.</p>	<p>Can I cut food safely?</p> <p>Can I say what healthy foods are?</p> <p>Can I say where some food comes from?</p>	<p>Can I describe the properties of the ingredients I am using and why it is important to be varied in my diet?</p> <p>Can explain what it means to be hygienic?</p> <p>Can I keep a hygienic kitchen?</p> <p>Can I say where food comes from i.e animals, underground, over ground etc?</p>	<p><u>KS1 Design and Technology National Curriculum</u></p> <p>Children use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>They understand where food comes from. Children can:</p> <ul style="list-style-type: none"> a explain where in the world different foods originate from; b understand that all food comes from plants or animals; c understand that food has to be farmed, grown elsewhere (e.g. home) or caught; d name and sort foods into the five groups in the Eatwell Guide; e understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why; f use what they know about the Eatwell Guide to design and prepare dishes.