



St Patrick's - Design & Technology Progression of Skills



Level Expected at the end of EYFS

We have selected the Early Learning Goals that link most closely to the Design & Technology National Curriculum.

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	Key Stage 2 National Curriculum Expectations
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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.

Design

Pupils should be taught to:

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups;
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Make

Pupils should be taught to:

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

Evaluate

Pupils should be taught to:

- investigate and analyse a range of existing products;
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work;
- understand how key events and individuals in design and technology 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 [for example, gears, pulleys, cams, levers and linkages];
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and

	<p>motors];</p> <ul style="list-style-type: none"> ● apply their understanding of computing to program, monitor and control their products. <p><u>Cooking and Nutrition</u></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ● 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..
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The Three I's for Design & Technology:

INTENT:At St Patrick's School, the vision of Design and Technology is to creatively design and make products that solve real and relevant problems.

Design and Technology is about providing opportunities for children to use creativity and imagination to design and make products considering their own and others' needs. Making mistakes is a vital part of children's Design and Technology education and integral to their learning.

Our intention is:-

- To develop children's understanding of the visual language of Design and Technology.
- To think innovatively and develop creative understanding.
- To provide the opportunity to explore and evaluate different creative ideas.
- To support all children including, SEN, EAL, PP and more able children to allow them to reach their full potential by the time they leave St Patrick's Primary School.
- To develop a sense of curiosity allowing children to use their design skills to reflect and explore topics in greater depth.

IMPLEMENTATION

How we teach DT across KS1 and KS2:-

- **In KS1 and KS2 Teachers are provided with an overview for their year group which is broken down into termly outcomes and linked to specific history or geography topics.**
- **Children are provided with opportunities to develop their skills using a range of media and materials.**
- **Children are introduced to a range of works and develop knowledge of different styles and vocabulary used by famous designers.**
- **Where possible, trips and visiting experts will enhance not only their learning experience but also the cultural capital of all pupils.**
- **Cross Curricular links of the subject are evident in other parts of the curriculum allowing children to explore topics in greater depth so that they are challenged.**

How we monitor and assess:

- **Lessons and LQ's should link to the overview and pupils assessed against those skills.**
- **Pupils are provided next step questions by Teachers to challenge pupils as well as 'next time I will' on LQ's which enables pupils to challenge their own learning and understanding.**

At St Patrick's our children are challenged appropriately as they progress through the school. Our Design and Technology curriculum is high quality, well thought out and planned to demonstrate progression. We measure the impact of our Design and Technology curriculum through the following:-

- Celebration of learning each term which demonstrates progression across the school.
- A broad, balanced curriculum that fully meets National Curriculum requirements.
- Pupil discussions about their learning; which includes their thoughts, ideas and evaluations of work.
- Children leave St Patricks with the necessary skills and knowledge required for the next stage of their Learning Journey.



Progression of Skills for Design & Technology

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
GENERATING IDEAS	Begin to draw on their own experience to help generate ideas and research conducted on criteria. Begin to understand the development of existing products:	Start to generate ideas by drawing on their own and other people's experiences. Begin to develop their design ideas through discussion, observation, drawing and	With growing confidence generate ideas for an item, considering its purpose and the user/s. Start to order the main stages of making a product. Identify a purpose and	Start to generate ideas, considering the purposes for which they are designing- link with Mathematics and Science. Confidently make labelled drawings from different views showing	Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams,	Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams,

	<p>What they are for, how they work, materials used. Start to suggest ideas and explain what they are going to do. Understand how to identify a target group for what they intend to design and make based on a design criteria. Begin to develop their ideas through talk and drawings. Make templates and mockups of their ideas in card and paper or using ICT.</p>	<p>modelling. Identify a purpose for what they intend to design and make. Understand how to identify a target group for what they intend to design and make based on a design criteria. Develop their ideas through talk and drawings and label parts. Make templates and mock ups of their ideas in card and paper or using ICT.</p>	<p>establish criteria for a successful product. Understand how well products have been designed, made, what materials have been used and the construction technique. Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. Start to understand whether products can be recycled or reused. Know to make drawings with labels when designing. When planning, explain their choice of</p>	<p>specific features. 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. Identify the strengths and areas for development in their ideas and products. When planning consider the views of others, including intended users, to improve their work. Learn about inventors, designers, engineers, chefs and manufacturers</p>	<p>prototypes, pattern pieces. Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. With growing confidence apply a range of finishing techniques, including those from art and design. Draw up a specification for their design- link with Mathematics and Science. Use results of investigations, information sources, including ICT when developing design</p>	<p>prototypes, and pattern pieces. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Accurately apply a range of finishing techniques, including those from art and design. Draw up a specification for their design- link with Mathematics and Science. Plan the order of their work, choosing appropriate materials, tools and techniques. Suggest alternative methods of</p>
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			materials and components including function and aesthetics.	who have developed ground-breaking products. When planning, explain their choice of materials and components according to function and aesthetic.	ideas. With growing confidence select appropriate materials, tools and techniques. Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.	making if the first attempts fail. Identify the strengths and areas for development in their ideas and products. Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.
MAKING	Begin to make their design using appropriate techniques. Begin to build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels	Begin to select tools and materials; use correct vocabulary to name and describe them. Build structures, exploring how they can be made stronger, stiffer	Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components and	Select a wider range of tools and techniques for making their product safely. Know how to measure, mark out, cut and shape a range of materials, using appropriate tools,	Select appropriate materials, tools and techniques e.g. cutting, shaping, joining and finishing, accurately. Select from and use a wider range of materials and components,	Confidently select appropriate tools, materials, components and techniques and use them. Use tools safely and accurately. Assemble components to make working

	<p>and axles], in their products. With help measure, mark out, cut and shape a range of materials. Explore using tools e.g. scissors and a hole punch safely. Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. Begin to use simple finishing techniques to improve the appearance of their product.</p>	<p>and more stable. With help measure, cut and score with some accuracy. Learn to use hand tools safely and appropriately. Start to assemble, join and combine materials in order to make a product. Demonstrate how to cut, shape and join fabric to make a simple product. Use basic sewing techniques. Start to choose and use appropriate finishing techniques based on their own ideas.</p>	<p>electrical components. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Start to understand that mechanical and electrical systems have an input, process and output. Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement. Know how simple electrical circuits and components can be used to create functional products. Measure, mark</p>	<p>equipment and techniques. Start to join and combine materials and components accurately in temporary and permanent ways. Know how mechanical systems such as cams or pulleys or gears create movement. Understand how more complex electrical circuits and components can be used to create functional products. Continue to learn how to program a computer to monitor changes in the environment and control their products. Understand how</p>	<p>including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Understand how mechanical systems such as cams or pulleys or gears create movement. Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.</p>	<p>models. Aim to make and to achieve a quality product. With confidence, pin, sew and stitch materials together to create a product. Demonstrate when make modifications as they go along. Construct products using permanent joining techniques. Understand how mechanical systems such as cams or pulleys or gears create movement. Know how more complex electrical circuits and components can be used to create functional products and how</p>
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			out, cut, score	to reinforce and strengthen a 3D framework. Now sew using a range of different stitches, to weave and knit.		to program a computer to monitor changes in the environment and control their products.
EVALUATION	Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria). When looking at existing products explain what they like and dislike about products and why. Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.	Evaluate their work against their design criteria. Look at a range of existing products and explain what they like and dislike about products and why. Start to evaluate their products as they are developed, identifying strengths and possible changes they might make. With confidence talk about their ideas, saying what they like and	Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. Begin to disassemble and evaluate familiar products and consider the views of others to improve them. Evaluate the key designs of individuals in design and technology has helped shape the world.	Evaluate their products carrying out appropriate tests. Start to evaluate their work both during and at the end of the assignment. Be able to disassemble and evaluate familiar products and consider the views of others to improve them. Evaluate the key designs of individuals in design and technology has helped shape the	Start to evaluate a product against the original design specification and by carrying out tests. Evaluate their work both during and at the end of the assignment. Begin to evaluate it personally and seek evaluation from others. Evaluate the key designs of individuals in design and technology has helped shape the world.	Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. Evaluate their work both during and at the end of the assignment. Record their evaluations using drawings with labels. Evaluate against their original criteria and suggest ways that their product could be

	Evaluate their work against their design criteria. Look at a range of existing products and explain what they like and dislike about products and why.	dislike about them.		world.		improved. Evaluate the key designs of individuals in design and technology has helped shape the world.
FOOD & NUTRITION	Begin to understand that all food comes from plants or animals. Explore the understanding that food has to be farmed, grown elsewhere (e.g. home) or caught. Start to understand how to name and sort foods into the five groups in 'The Eat well plate' Begin to understand that everyone should eat at least five portions of fruit and vegetables every day. Know	Understand that all food comes from plants or animals. Know that food has to be farmed, grown elsewhere (e.g. home) or caught. Understand how to name and sort foods into the five groups in 'The Eat well plate' Know that everyone should eat at least five portions of fruit and vegetables every day. Demonstrate	Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically	Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically	Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Begin to understand that seasons may affect the food available. Understand how food is processed	Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand that seasons may affect the food available. Understand how food is processed into ingredients that can be eaten

	<p>how to prepare simple dishes safely and hygienically, without using a heat source. Know how to use techniques such as cutting, peeling and grating.</p>	<p>how to prepare simple dishes safely and hygienically, without using a heat source. Demonstrate how to use techniques such as cutting, peeling and grating.</p>	<p>including, where appropriate, the use of a heat source. Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate' Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>including, where appropriate, the use of a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate' Know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>into ingredients that can be eaten or used in cooking. Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Start to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Begin to understand that different food and drink contain different substances – nutrients, water and fibre – that</p>	<p>or used in cooking. Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>
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					are needed for health.	
CONSTRUCTION	Use sheet materials and construction tools with appropriate supervision.	Use sheet materials and construction tools with appropriate supervision.	Use sheet materials and construction tools with appropriate supervision.	Use sheet materials and construction tools with appropriate supervision.	Use sheet materials and construction tools appropriately.	Use sheet materials and construction tools appropriately..
TEXTILES		Cut, then join textiles using a running stitch, over sewing or glue. Decorate using a range of items (buttons, sequins, beads, ribbons,etc).		Cut, then join textiles using a running stitch, over sewing, back stitch or fastenings. Understand seam allowances, create simple patterns and appropriate decoration techniques (e.g.applique).		Pin and tack fabrics, use patterns and seam allowances and join fabrics to make quality products.
MECHANISMS	Know about movement of simple mechanisms such as levers, sliders, wheels and axels.		Know about movement of simple mechanisms such as levers, sliders, wheels and axels.		Understand how mechanical systems, such as cams, pulleys or gears create movement.	