

















Workshop

“Design and Technology should be the subject where mathematical brainboxes and science whizzkids turn their bright ideas into useful products.” James Dyson

Phase		Curriculum Coverage – Threshold Concepts							
		Design		Make		Evaluate		Technical Knowledge	
Upper KS2	Y6 Felt Phone Cases		<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks for example, cutting, shaping, joining and finishing, accurately 		<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> apply their understanding of how to strengthen, stiffen and reinforce more complex structures
	Y5 Fair Ground Rides								
Lower KS2	Y4 Creative Shoes		<ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria (a moving picture) 		<ul style="list-style-type: none"> select from and use a range of tools and equipment to perform practical tasks for example, cutting, shaping, joining and finishing 		<ul style="list-style-type: none"> explore and evaluate a range of existing products 		<ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable
	Y3 Branding & Packaging								
KS1	Y2 Patchwork		<ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria (a moving picture) 		<ul style="list-style-type: none"> select from and use a range of tools and equipment to perform practical tasks for example, cutting, shaping, joining and finishing 		<ul style="list-style-type: none"> explore and evaluate a range of existing products 		<ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable
	Y1 Moving Pictures								
EYFS	Reception Junk Modelling		<ul style="list-style-type: none"> Begin to show accuracy and care when drawing 		<ul style="list-style-type: none"> Use a range of small tools including scissors & paintbrushes 		<ul style="list-style-type: none"> Share their creations, explaining the process they have used 		<ul style="list-style-type: none"> Have a deep understanding of number to 10
	Nursery Junk Modelling								

Intent



Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, children design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. At St Aloysius, our children learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Implementation



The threshold concepts across the Design and Technology curriculum are taught sequentially over time to develop technical knowledge, skills and understanding from EYFS to Y6 and beyond. The curriculum aims to ensure that all children:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world


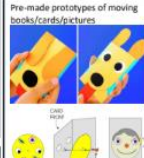
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others



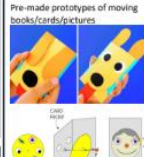
Impact








The Design and Technology curriculum at St Aloysius Catholic Infant and Junior Schools allows all children:

- To develop their God given talents and gain the technical knowledge and skills needed to become confident individuals
- To understand and evaluate technical information.
- To make informed decisions that impact on their own lives and the lives of those around them.
- To develop an increasing awareness of the moral and ethical dilemmas technical discovery can bring.
- To become active citizens of the world.
- To receive regular oral and written feedback so children are aware of their position on the learning journey, their strengths and targets, which they consider when taking their next steps.

Design & Technology Design & Make 2D Year 1 - Moving Pictures (Card)		Rationale/Curriculum Links... Pupils will deconstruct and explore different types of card mechanisms. They will model a mechanism successfully and then look to incorporate this into their own design which can be linked to a variety of topics or celebrations. Sewing tools to manufacture will focus on accuracy and functional properties of materials.	Design See how their products will work. Use knowledge of existing products to come up with ideas.	Make Measure, mark-out, cut and shape materials. Start to choose tools and equipment.	Evaluate Evaluate what they like and dislike about existing products. Suggest how products could be improved.	Technical Knowledge To know about the movement of simple mechanisms, such as levers, sliders, wheels & gears.	
Session One Explore existing cards with moving elements. Link to a topic relevant to product.	Session Two Analyse types of movement. Deconstruct one existing card to see the different ways that parts can move.	Session Three Practise of skill. Exploring 2-3 types of movement as a prototype.	Session Four Design Product. What mechanism will you use? What will move? How often?	Session Five Make Pattern/Design. Create pattern with design.	Session Six Make Mechanism. Using moving parts.	Session Seven Evaluate final product. What could be changed? What improvements could be made?	Session Eight Modifying our design. Explore ways that the card could be adapted to meet for a different purpose. What would you change if you were making a birthday card? Use of technical vocabulary.
Key vocabulary Force, card, motion, movement, mechanism, wheel, axle, levers, sliders, split pin, products, push, pull, image, text, linear, rotary, design, make, evaluate, components, deconstruct, construct, tools, equipment, characteristics, assemble, fix, join, model, stencil, template, landscape, portrait, up, down, left, right, clockwise, anti-clockwise.	Designer Influence  Peter Dahmen, born in 1987, studied Communication Design at the University of Applied Sciences and Arts in Dortmund, Germany. Since his studies, he passionately creates three-dimensional folding objects out of paper and cardboard. "What requires me to this day... is the enormous range of my projects. I design prototypes for pop-up cards in all imaginable sizes and for various purposes. Many of my designs are produced in large editions, but I create also exclusive individual pieces!"		Health and Safety <ul style="list-style-type: none"> • Ensure that equipment is handled carefully and respectfully. • Ensure appropriate cutting equipment is available. • Ensure that care is taking when punching holes (e.g. blue-tac underneath card to pierce holes with a sharp pencil). • Carrying scissors safely. • Importance of tucking chairs in for people who are moving around the classroom environment. 			Resources Pre-made prototypes of moving books/cards/pictures  Variety of card Scissors Split pins Blue-tac and compass/sharp pencil (for piercing holes) Pencil sticks Coloured pens/pencils Seasons template (or chosen template)	

Skills Development (processes) <ul style="list-style-type: none"> • Can you fold accurately and sharply, lining up corners so your card will stand properly? • Are you using the correct scissors? • Are you holding your card in the correct orientation? • Have you carefully marked out where cuts will be made? 	Cutting 	<ul style="list-style-type: none"> • Are you following the instructions carefully to join your spinner to the card? • Does your mechanism move properly? 	Join Card 	Resources 
The Process/Product <ul style="list-style-type: none"> Explore existing cards with moving elements. Learn about existing products and identify a text/client for product. Evaluate final product. What do you like about your product? What could be changed? What improvements could be made? Modifying our design. Explore ways that the card could be adapted to meet for a different purpose. What would you change if you were making a birthday card? Use of technical vocabulary. 	Analyse types of movement. Deconstruct and explore the different ways that parts can move on a card or picture.	Practise the skill of movement. Exploring 2-3 types of movement as a prototype. Can you create a spinner?	Design Product. What mechanism will your card include? What will move? How will it move?	Resources Variety of card Scissors Split pins Blue-tac and compass/sharp pencil (for piercing holes) Pencil sticks Coloured pens/pencils Seasons template (or chosen template)

Design & Technology Design & Make 2D Year 2 - Felt Phone Cases		Rationale/Curriculum Links... Pupils will build upon previous knowledge of designing and making using fabrics in Y2 and Y4 units. They will design for a specific audience after market research and will develop independence when measuring, cutting and joining materials. They will further develop their skills in sewing using a range of stitches including running stitch, back stitch and blanket stitch and will accurately apply a range of finishing techniques. Pupils will critically evaluate the quality of their product.	Design Highlight key features and design elements of their work.	Make Finish their chosen design and use of skills to be neat and aesthetically pleasing.	Evaluate Evaluate existing designs looking at design, fabric, colour and why materials were chosen.	Technical Knowledge To understand the process and techniques of working with felt fabric.	
Session One Design criteria: develop a range of cases for different target consumers.	Session Two Design and research fabric: develop an initial template for a mobile phone case.	Session Three Learn to stitch: running stitch, back stitch, blanket stitch.	Session Four Define stitching and select stitches to use on final product.	Session Five Finish design: templates and pattern pieces.	Session Six Make products using the techniques and tools that have been demonstrated.	Session Seven Add decoration: use the tools and manufacturing equipment.	Session Eight Evaluate product against the criteria that had been stated they should try and meet initially.
Key vocabulary Design, criteria, functional, aesthetics, specification, design, process, annotate, measure, pattern / template / prototype, precise, centimetre / millimetre, backstitch / running stitch / blanket stitch, fastening, decoration, evaluate.	Designer Influence  Katie Young with four passionate women about fashion, opened a London based shop called "Swanky Modes" in the 70s. Their clothes appeared in magazines and newspapers including Vogue, News, Times, 10, 12, The Face, RedWeekend, interview, The Sunday Times, Express, Mail, and the V&A Little Black Dress Book.		Health and Safety <ul style="list-style-type: none"> • Ensure scissors, needles and pins are handled carefully and correctly. • Equipment should be audited before use to ensure safety and suitability. • Pupils should be taught how to hold fabrics whilst sewing. • Pupils should be taught safety whilst working e.g. carrying scissors. 			Resources  https://tutorper.com/PDFbooks <ul style="list-style-type: none"> • felt sheets or squares • fabric shears • embroidery needles with larger eyes for twisted yarn • embroidery thread • paper • press studs • buttons • Velcro • elastic 	

Skills Development (processes) <ul style="list-style-type: none"> • can you measure and draw a pattern? • can you use a template? • can you pin a pattern to your felt? • can you cut fabric accurately? 	Sewing 	<ul style="list-style-type: none"> • how will you attach your decorations? • can you stitch? • do you need to use glue? • how will you ensure a high-quality finish? 	Fastening 	Resources 
The Process/Product <ul style="list-style-type: none"> Who is this product for? Look at a range of pictures or actual phone cases. Identify the intended consumer and joining techniques. Evaluate the aesthetics. High quality finish: Are all pupils achieving a high quality finish? Do pupils know how to attach ongoing work and adapt as necessary? Fastenings: How pupils chosen appropriate fastenings e.g. Velcro, elastic, buttons, press studs. 	Who is MY product for? Staff should restrict criteria e.g. to a theme. Pupils to sketch and design ideas. They should measure accurately and make a paper prototype.	How can I join felt? Learn to use running stitch and blanket stitch to join the rest of the case.	How can I join felt to add decoration? Learn to use running stitch and back stitch to add decorative elements.	Resources felt sheets or squares fabric shears embroidery needles with larger eyes for twisted yarn embroidery thread paper press studs buttons Velcro elastic