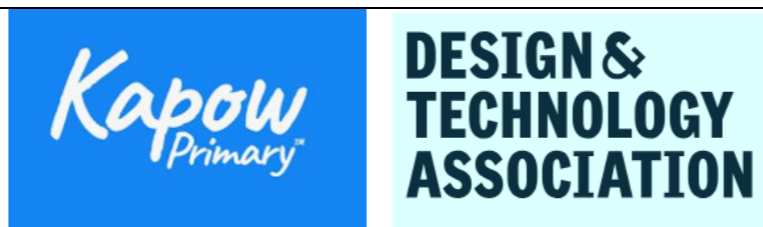


Subject Overview Skegness Infant and Junior Academies

Subject – Design and Technology



Our Curriculum Partners for Design and Technology



Knowing More and Remembering More

The 'projects on a page' include core knowledge and skill development for each year group. Key technical terminology is taught in context. Additional opportunities on interactive programmes, such as Bedrock and Kahoot, enable children to revisit key topic vocabulary.

Term 1

Term 2

Term 3

Term 4

Term 5

Term 6

Knowing me Knowing you

Tell me a tale

Where shall we go

Footprints

The great outdoors

What if...

Nursery

Personal, Social and Emotional Development

Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.

Physical Development

- Use large-muscle movements to wave flags and streamers, paint and make marks.
- Choose the right resources to carry out their own plan.
- Use one-handed tools and equipment, for example, making snips in paper with scissors.

Understanding the World

- Explore how things work.

Expressive Arts and Design

- Make imaginative and complex 'small worlds' with blocks

and construction kits, such as a city with different buildings and a park.

- Explore different 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 to express them.
- Create closed shapes with continuous lines, and begin to use these shapes to represent objects.

Reception

Physical Development

- Progress towards a more fluent style of moving, with developing control and grace.
- Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
- Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Expressive Arts and Design

- Explore, use and refine a variety of artistic effects to express their ideas and feelings.
- Return to and build on their previous learning, refining ideas and developing their ability to represent them.
- Create collaboratively, sharing ideas, resources and skills.

ELG Physical Development

Fine Motor Skills

- Use a range of small tools, including scissors, paintbrushes and cutlery.

ELG Expressive Arts and Design

Creating with Materials

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| | | <ul style="list-style-type: none"> • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used. <p>Key vocabulary</p> <p>Fruit, Vegetables, Safety, Knife, Blade, Tool, Edge, Handle, Chop, Slice, Cut, Saucepan, Chopping board, Boil, Blend, Mix, Packaging, Join, Stick, Cut, Bend, Slot, Scissors, Measure, Materials, Fix, Waterproof, Absorb, Prediction, Variable, Experiment, Investigation, Float, Sink, Junk</p> | | | | | |
| | | Term 1 | Term 2 | Term 3 | Term 4 | Term 5 | Term 6 |
| | | Time Travellers | Above and beyond | Telling Tales | A World Apart | Blue Planet | This is Me |
| Year 1 | | | | <p><i>Cooking and Nutrition</i></p> <p><i>Baking bread</i></p> <p><i>Making pancakes</i></p> <p><i>Where food comes from</i></p> <ol style="list-style-type: none"> 1. To know where food comes from. 2. To understand where food comes from 3. To use the basic principles of a healthy and varied diet to prepare dishes 4. To select from and use a range of tools and equipment to perform practical tasks | <p><i>Design, Make and Evaluate</i></p> <p><i>Spaceship</i></p> <ol style="list-style-type: none"> 1. To design a spaceship. 2. To make a spaceship. 3. To evaluate own spaceship against a design criteria. <p>Key findings</p> <ul style="list-style-type: none"> • Children will know that a design is a visual representation of what they intend to make. | | <p><i>Design, Make and Evaluate</i></p> <p><i>Plastic bag kite/parachute</i></p> <ol style="list-style-type: none"> 1. To design what to do with a plastic bag? 2. To make a plastic bag kite 3. To evaluate a plastic bag kite <p>Key findings</p> <ul style="list-style-type: none"> • Children will know that a design is a visual representation of what they intend to make. |

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| | | | | <p>5. To select from and use a wide range of ingredients, according to their characteristics</p> <p>Key findings</p> <ul style="list-style-type: none"> • Children will know that food comes from plants and animals and that they are farmed and taken to supermarkets/markets to be sold. • Children will know how to use different types of equipment for different meals they are making. • Children will know that different ingredients make different meals and can change the taste of the food they are making. <p>Design, Make and Evaluate</p> <p>Moving Pictures</p> <ol style="list-style-type: none"> 1. To investigate a moving picture. 2. To design a moving picture. | <ul style="list-style-type: none"> • Children will know how to choose resources based on their design. • Children will know how to join resources together to assemble their structure. • Children will know that a design criteria is a set of rules to help with ideas and test success. • Children will know that by evaluating a product you can make adjustments and improvements. <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Planning • Investigating • Design • Evaluate • Make • User | | <ul style="list-style-type: none"> • Children will know how to choose resources based on their design. • Children will know how to join resources together to assemble their structure. • Children will know that a design criteria is a set of rules to help with ideas and test success. • Children will know that by evaluating a product you can make adjustments and improvements. <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Planning • Investigating • Design • Evaluate • Make • User • Purpose • Ideas • Product |
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| | | | | <p>3. To make a lever mechanism</p> <p>4. To make a slider mechanism</p> <p>5. To evaluate a moving picture.</p> <p>Key Findings</p> <ul style="list-style-type: none">• Children will know that a design is a visual representation of the product they intend to make.• Children will know that a lever mechanism is a simple mechanism that helps people move things around a point.• Children will know that a slider mechanism is a bar or rod that moves forwards and backwards or side to side.• Children will know that they can make adjustments to products they have made by evaluating the product and | <ul style="list-style-type: none">• Purpose• Ideas• Product | | |
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| | | | | <p>process they have used.</p> <p>Key Vocabulary</p> <ul style="list-style-type: none">• Planning• Investigating• Design• Evaluate• Make• User• Assemble• Purpose• Ideas• Product• Mechanism• Model• Sliders• Target audience• Template• Test <p><i>Windmill structure</i></p> <ol style="list-style-type: none">1. To include individual preferences and requirements in my design.2. To make a stable structure.3. To assemble the components of my structure. | | | |
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| | | | | <p>4. To evaluate my project and adapt my design.</p> <p>Key Findings</p> <ul style="list-style-type: none">• Children will know they can use their ideas to inform how their design will look.• Children will learn that a design is a visual representation of something.• Children will know that stable means that the object will not easily fall over.• Children will know that a structure is something that has been put together.• Children will learn that assemble means to put something together. They will learn how to join materials together to make their product.• Children will learn that they can look at the good and bad points about something, then think about how to improve it. | | | |
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| | | | | <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Planning • Investigating • Design • Evaluate • Make • User • Client • Purpose • Ideas • Product • Net • Stable • Strong • Test • Weak • Windmill <p>Key enrichment experiences:</p> <p>Visit to a working windmill</p> | | | |
| Year 2 | | <p>Design, Make and Evaluate</p> <p><i>Vehicles</i></p> <p>1. Evaluating existing car designs/models. Identify strengths/weaknesses</p> | | <p>Design, Make and Evaluate</p> <p><i>Silhouette animal puppets</i></p> <p>1. To explore the use of silhouette animation.</p> <p>2. To design silhouette puppets in the style of Lotte Reiniger.</p> | <p>Design, Make and Evaluate</p> <p><i>chocolate packaging</i></p> <p>1. To explore and evaluate chocolate bar packaging.</p> | | <p>Design, Make and Evaluate</p> <p><i>structure for trapeze artist</i></p> <p>1. To design a purposeful product for the circus.</p> |

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| | | <ol style="list-style-type: none"> 2. Design own vehicle against given criteria. 3. Select appropriate materials to make a moving vehicle. 4. Evaluate design and make project- ICT link. <p>Key findings</p> <ul style="list-style-type: none"> • Children will know that by evaluating existing products they can find good ideas to use for their own product to make them more successful. • Children will know that a design is visual plan of what they intend to make. • Children will know that a mechanism is the part of an object that moves together to make an object work. • Children will know that an axel is a long straight rod which connects to a rotating part (The wheels of the car). | | <ol style="list-style-type: none"> 3. To be able to evaluate my ideas and products. 4. To explore the concept and features of structures and the stability of different shapes. 5. To explore strength in different structures 6. To understand that the shape of the structure affects its strength. 7. To make a structure according to design criteria. 8. To produce a finished structure and evaluate its strength, stiffness and stability. <p>Key findings</p> <ul style="list-style-type: none"> • Children will know that shadow puppets work by casting shadows on a screen when moved between a light source and screen. • Children will know how to plan and design the product they are going to make and the purpose of this. • Children will know that by evaluating their ideas | <ol style="list-style-type: none"> 2. To design packaging for a new chocolate bar. 3. Making own wrapper (Making chocolate flow chart) 4. To evaluate your packaging design. <p>Key findings</p> <ul style="list-style-type: none"> • Children will know what product is best to use for chocolate packaging according to the properties of materials the materials used. • Children will know how to design packaging for a chocolate bar by including previous research and following a design criteria. | | <ol style="list-style-type: none"> 2. Selecting materials and explaining why. 3. To build a structure using materials and tools. 4. Making structure stronger 5. To evaluate a design and build project. <p>Key findings</p> <ul style="list-style-type: none"> • Children will know that a design should be for a purpose. • Children will know the importance of choosing the correct materials for their product and explain the reasons for this. • Children will know how to join materials in the most effective way for their product and which tools to use. • Children will know how to make their |
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| | <ul style="list-style-type: none"> • Children will know that by picking out good and bad points you can make improvements. <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Investigating • planning • Design • Make • Evaluate • Purpose • Ideas • Design criteria • Wheels • Axles • Axle holder • Chassis • Fix • Mechanic • Mechanism • Model • Test | | <p>they can make improvements.</p> <ul style="list-style-type: none"> • Children will know that different resources have different properties and can change the stability and strength of a product according to what they choose to use and will be able to choose the best resources for their product. • Children will know that they need to follow the design criteria when making their product. • Children will know that by identifying strengths and weaknesses of a product it can be adjusted to make improvements. • Children will know that strength is the capacity of an object or substance to withstand force or pressure. • Children will know that stiffness means a material or object that does not bend easily. | <ul style="list-style-type: none"> • Children will know what materials to use and how to assemble a wrapper for a chocolate bar. • Children will know where coco beans come from and how chocolate is made. • Children will know that by evaluating their product they can make improvements to their design. <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Design • Make • Evaluate • Purpose • Ideas • Design criteria • Packaging • Suitable <p>Key enrichment experiences:</p> | <p>product stronger by evaluating the end product.</p> <p>Key Vocabulary</p> <ul style="list-style-type: none"> • design • make • evaluate • purpose • ideas • design criteria • stronger • Structure • Frame • Model • Opinion • Rotate |
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| | | | | <ul style="list-style-type: none"> • Children will know that stability is a measure of if the object will fall over. <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Design • Make • Evaluate • Purpose • Ideas • Design criteria • Silhouette • Puppet <p><i>Baby Bear's Chair</i></p> <ol style="list-style-type: none"> 1. To explore the concept and features of structures and the stability of different shapes. 2. To understand that the shape of the structure affects its strength. 3. To make a structure according to design criteria. 4. To produce a finished structure and evaluate its strength, stiffness and stability. <p>Key findings</p> | Chocolate experience | | |
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| | | | | <ul style="list-style-type: none">• Children will be able to identify man-made and natural structures.• Children will be able to identify stable and unstable structural shapes.• Children will be able to contribute to discussions.• Children will be able to identify features that make a chair stable.• Children will be able to work independently to make a stable structure, following a demonstration.• Children will be able to explain how their ideas would be suitable for Baby Bear.• Children will be able to produce a model that supports a teddy, using the appropriate materials and construction techniques.• Children will be able to explain how they made their model strong, stiff and stable. | | | |
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| | | | | <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Design criteria • Man-made • Function • Mould • Natural • Properties • Structure • Stable • Stiff • Strong • Shape • Model • Test • Weak | | | |
| Year 3 | | <p>Food Healthy and varied diet – linked to PSHE.</p> | <p>Electrical Systems - Simple circuits and switches & Simple programming and control Illuminated sign linked to our Science Light and The Owl who was Afraid of the Dark.</p> | <p>Textiles Traditional Tales Wolf puppets from fairy tales .</p> | <p>Mechanical systems - Levers and Linkages Fantasy Create a story a book.</p> | <p>Mechanical systems - Pneumatics Blue Planet Creating a moving Polar Bear (linked to Geography, English & Reading).</p> | <p>Structures - Shell structures This is Me Designing a desk tidy to remind them of Year 3.</p> |
| Year 4 | | <p>neumatics Create a Tutankhamun sarcophagus, push the syringe and out pops a mummy.</p> | <p>extiles Christmas - Creating a gingerbread them or a reindeer using felt template and wool.</p> <p>Investigate and Evaluate Use questioning to develop understanding e.g. <i>What is its purpose? Which one is most suited to its purpose? What properties/ characteristics does the fabric have? Why has this fabric been chosen? How has the fabric been joined together? How effective are its fastenings? How</i></p> | <p>Electrical Systems Traditional Tales - Creating a puppet theatre using cardboard boxes and circuits to create light for the show.</p> <p>Investigate and Evaluate Discuss, investigate and, where practical, disassemble different examples of relevant battery-powered products, including those which are commercially available e.g. <i>Where and why they are used? How does the product work? What are its key features and components? How does the switch work? Is the product manually controlled or controlled by a computer? What materials have been used and why? How is it suited to its intended user and purpose?</i></p> <ul style="list-style-type: none"> • Ask children to investigate examples of switches, including those which are commercially available, which work in different ways e.g. push-to-make, push-to-break, toggle switch. Let the children use | <p>Structures. Frame structures Fantasy, Adventure - Easter baskets or surprise boxes.</p> | <p>Mechanical systems. Levers and Linkages Blue Planet, Recycling – Robot Iron man with moving body part.</p> | <p>Food. Celebrating culture and seasonality This is Me – Designing a sandwich</p> |

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| | | | <p><i>has it been decorated? Does its decoration have a purpose? What would the 2-D pattern piece look like? What are its measurements? How might you change the product?</i></p> <p>Focused Tasks Demonstrate a range of stitching techniques and allow children to practise sewing two small pieces of fabric together, demonstrating the use of, and need for, seam allowances. Allow children to use a textile product they have taken apart to create a paper pattern using 2-D shapes.</p> <p>Design Make and Evaluate Ask children to sketch and annotate a range of possible ideas, constantly encouraging creative thinking. Produce mock-ups and prototypes of their chosen product. • Plan the main stages of making e.g. using a flowchart or storyboard. • Children to assemble their product using their existing knowledge, skills and understanding from IEAs and FTs. Encourage children to think about the aesthetics and quality finish of their product.</p> <p>Key Findings</p> <p>Key Vocabulary fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam</p> | <p>them in simple circuits e.g. <i>How might different types of switches be useful in different types of products?</i></p> <p>Focused Tasks Recap with the children how to make manually controlled, simple series circuits with batteries and different types of switches, bulbs and buzzers. Discuss which of the components in the circuit are input devices e.g. switches, and which are output devices e.g. bulbs and buzzers. • Demonstrate how to find a fault in a simple circuit and correct it, giving pupils opportunities to practise.</p> <p>Design Make and Evaluate</p> <p>Key Findings</p> <p>Key Vocabulary</p> | | | |
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| | | | allowance, user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces | | | | |
| Year 5 | | <p>Mechanical systems. Pulleys or Gears – Astro moon clock with gears.</p> <p>Food. Celebrating culture and seasonality – Greek bread and dips.</p> | <p>Electrical Systems. More complex switches and circuits – Mars rovers or Moon buggies.</p> <p>Additional: K'Nex Space exercise bikes Gears and pulleys.</p> | Structures. Frame structures – wooden mead halls. | Mechanical systems. Cams – story character dancing on book. | <p>Electrical Systems. Monitoring and control – automatic night light using crumble kit. Automation and helping the environment.</p> <p>Environmental housing project – computer-aided design using Minecraft.</p> | Textiles. Combining different fabric shapes – fashion accessory to accompany Alexander McQueen art topic. |
| Year 6 | | <p>Food. Celebrating culture and seasonality</p> <p>Carrot cookies</p> | <p>Electrical Systems. More complex switches and circuits – Creating different circuits</p> <p>Textiles. Combining different fabric shapes - Creating Gonks to sell.</p> | Traditional tales – shoe box scene using a Frame structures | Fantasy – Electrical Systems. Monitoring and control | <p>Blue Planet – sculpture out of used plastic</p> <p>Structures. Frame structures</p> | This is Me – Mechanical systems. Cams |