



Curriculum Progression – Design and Technology

Intent	At Beaudesert Lower School, our intent is to deliver outstanding Design and Technology education that equips our pupils with the knowledge, skills, and understanding to thrive in an ever-evolving technological society. We aim to foster creativity, critical thinking, and problem-solving. Our curriculum is designed to inspire a love for innovation, design, and practical skills while ensuring progression and continuity across all year groups.
EYFS	<u>Characteristics of Effective Learning and Teaching</u> Playing and exploring • Realise that their actions have an effect on the world, so they want to keep repeating them. • Plan and think ahead about how they will explore or play with objects. • Make independent choices. • Bring their own interests and fascinations into early years settings. Active learning • Show goal-directed behaviour. • Begin to correct their mistakes themselves. • Keep on trying when things are difficult. Creating and thinking critically



- Sort materials.
- Review their progress as they try to achieve a goal. Check how well they are doing.
- Solve real problems
- Know more, so feel confident about coming up with their own ideas.
- Make more links between those ideas.
- Concentrate on achieving something that's important to them. They are increasingly able to control their attention and ignore distractions.

Early Learning Goals

- C&L Speaking - Offer explanations for why things might happen, making use of recently introduced vocabulary
- PSED Managing Self - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge;
- PSED Managing Self - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
- Physical Fine Motor Skills - Use a range of small tools, including scissors, paint brushes and cutlery
- EAD Creating with Materials - 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;
- EAD Creating with Materials - Make use of props and materials when role playing characters in narratives and stories.



National
Curriculum KS1

Design

- 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

- 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

- explore and evaluate a range of existing products, evaluate their ideas and products against design criteria, Technical knowledge and 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.



National
Curriculum KS2

Design

- 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

- 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

- 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 motors] apply their understanding of computing to program, monitor and control their products.				
	<u>Early years</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Design, make Evaluate and improve	- Continuous provision – access to variety of junk modelling materials and appropriate tools, joining materials. - Continuous provision – access to construction equipment – small and large scale. - Continuous Provision – access to playdough and malleable materials and tools	- Explain what they are making and which materials they are using. - Design products that have a clear purpose and an intended use - Make products using a range of tools to cut, shape, join and finish – basic level. - Say what they like and don't like about their product and why – using six hat thinking	- Explain what they are making and which materials they are using. - Design products that have a clear purpose and an intended use - Use pictures and words to convey what they want to make. - Make products using a range of tools to cut, shape, join and finish – more complex - Say what they like and don't	- Plan for a product - Generate designs with annotated sketches - Refine work and techniques as work progresses, continually evaluating the product design. - Identify strengths and weaknesses of their design ideas - Talk about how closely their finished product meets their design	- Investigate existing products including drawing them to analyse and understand how they are made - Plan a sequence of actions to make a product – basic level - Generate designs with annotated sketches - Refine work and techniques as work progresses, continually evaluating the product design and present to the class. - Analyse and prioritise strengths and weaknesses of their design ideas



	Adult modelling and interactions to support	Talk about how closely their finished product meets their design criteria.	like about their product and why. Explain what they would change. Talk about how closely their finished product meets their design criteria.	criteria and meets the needs of the user. Discuss what they would change and why	Talk about how closely their finished product meets their design criteria and meets the need of the user.
When are these skills covered and through which topics? How are these skills being covered? Designers that are mentioned briefly?	- Continuous provision – access to variety of junk modelling materials and appropriate tools – tape, scissors, glue, treasury tags, hole punches, staples, etc. - Continuous provision – access to construction equipment –	Astronauts & Aliens Castles and Palaces Down in the deep Children design and label their rockets and boats before building them. After building the boats the children evaluate them and compare it to their original design.	Autumn – Into the forest / Into the outback – Making of fairy bread and sandwiches Spring – Ice and Fire – Designing and evaluating of making a fire engine using axels Making bread Summer – Picture This – Making pop up	Romans – chariots Italy – pizza boxes	- Walk like an Egyptian - Rumble in the Jungle - A rainforest 3D diorama – planning, creating and evaluating. - Presentation of their work to the class justifying their choices.



	small and large scale. Inside and out. • Continuous Provision - access to playdough and malleable materials and tools • Adult led activities - producing specific, topic related items such as Christmas cards, ball and cup toys, den building, stick games, etc.		cards to showcase works of famous artists.		
Cooking and nutrition	• Understand that different factors support their wellbeing such as healthy eating.	• Understand where food comes from. • Group familiar products e.g. fruit and vegetables	• Group foods into five groups in the eat well plate • Cut, grate or peel ingredients safely	• Cut materials accurately and safely by selecting appropriate tools. • Know that a healthy diet is made up of a	• Measure ingredients using scales independently. • Prepare ingredients hygienically and



	• Be able to say what foods we can eat lots of or a little of. • Follow simple recipes with adult support	• Cut ingredients safely • Prepare simple dishes safely and hygienically.	• Prepare simple dishes safely and hygienically • Measure or weigh using cups or electronic scales • Making sandwiches • Making fairy bread • Making bread	variety of different food and drink, as depicted in the eat well plate. • Measure and weigh ingredients appropriately. • Follow a recipe	using the appropriate utensils by independently following a recipe.
When are these skills covered and through which topics? How are these skills being covered? Designers that are mentioned briefly?	• Bread and butter making • celebration crispy cakes • melting and mixing, discussing celebration foods as treats. • Sharing topic related foods - apples and honey, yams, etc.	Super food Come join the party Making a fruit smoothie and cooking potato latkes	Autumn - Into the forest / Into the outback - Making of fairy bread and sandwiches Spring - Ice and Fire - Designing and evaluating of making a fire engine using axels Making bread Summer - Picture This - Making pop up cards to showcase	Making Pizzas	• Walk like an Egyptian • Shortbread - measuring ingredients, following a recipe and decorating with icing and toppings. • Salt dough - measuring ingredients, following a recipe and decorating.



			works of famous artists.		
Construction, mechanics and electronics	- Explore different materials freely, to develop their ideas about how to use them and what to make. - Return to and build on their previous learning, refining ideas and developing their ability to represent them.	- Mark out materials to be cut using a template - Attach wheels to make a pull along vehicle - Make vehicles with construction kits which contain free running wheels	- Use a range of materials to create models with wheels and axles e.g. tubes, dowels and cotton reels - Gluing to strengthen products	- Strengthen frames using diagonal struts - Begin to use mechanical systems in their products e.g. gears, pulleys and levers	- Investigate how to make structures more stable e.g. by widening the base. - Understand and use mechanical structures in their products e.g. gears, pulleys, levers and gears. - Create series circuits
When are these skills covered and through which topics? How are these skills being covered? Designers that are mentioned briefly?	Continuous provision - access to variety of modelling materials/den building materials	Come join the party Down in the deep Making an old-fashioned toy car	Fire and Ice - Making a fire engine and bread Autumn - Into the forest / Into the outback - Making of fairy	Romans - Mosaics, frame	- Walk like an Egyptian - Model of a shadoof - Model of a felucca



	• Continuous provision – access to IAWB and iPads for specific locked learning activities. • Bee-bots (related to maths directional and positional language) • Torches light related materials (reflective etc, related to topic Owl babies and night walks.)		bread and sandwiches Spring – Ice and Fire – Designing and evaluating of making a fire engine using axels Making bread Summer – Picture This – Making pop up cards to showcase works of famous artists.		
Materials	• Explore different materials freely, to develop their ideas about how to use them and what to make. • Return to and build on their previous	• Fold, tear and cut paper or card • Investigate strengthening sheet material • Roll paper to create tubes • Demonstrate a range of joining	• Demonstrate a range of joining techniques such as gluing, taping or tying • Cut materials safely using tools provided	• Measure and mark out accurately • Cut materials accurately and safely by selecting appropriate tools	• Create series and parallel circuits • Measure and mark out to the nearest mm. • Use and explore more



	learning, refining ideas and developing their ability to represent them.	techniques such as gluing or taping Making sliding pictures and simple pop ups	- Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling - Design and make a pop up in the style of an artist	- Cut slots - Fold given nets - Deconstruct a pop up to see how it works	complex pop-ups. - Cut slots and internal shapes. - Create nets.
When are these skills covered and through which topics? How are these skills being covered? Designers that are mentioned briefly?	- Toys - comparing materials they are made from - Continuous provision - access to a variety of modelling and construction materials, joining mechanism and tools - Continuous provision, discovery area - topic related materials explorations.	Aliens and Astronauts Castles and palaces Building a rocket and a castle using recyclable materials	Autumn - Into the forest / Into the outback - Making of fairy bread and sandwiches Spring - Ice and Fire - Designing and evaluating of making a fire engine using axels Making bread Summer - Picture This - Making pop up cards to showcase	Romans - making chariots Italy - pizza boxes	Walk like an Egyptian We'll meet again



	• Junk Modelling – sorted into different materials • Exploration of different materials in weather related situations – experiential learning in water play, mud kitchen, sand play etc.		works of famous artists.		
Taking inspiration from design throughout history	• Share their creations, explaining the process they have used	• Explore objects and designs to identify likes and dislikes • Explore how products have been created	• Explore objects and designs to identify likes and dislikes Discuss what they would change • Explore how products have been created • Relate back to understanding of materials	• Disassemble products to understand how they work • Improve on existing designs giving reasons for their choices • Identify some of the great designers in their areas of study to generate ideas	• Study the construction of the pyramids – strength of triangles. • Compare and contrast the Egyptian pyramids and those of the Maya. • Disassemble products to understand how they work



				for their designs	• Improve on existing designs giving reasons for their choices • Identify some of the great designers in their areas of study to generate ideas for their designs
When are these skills covered and through which topics? How are these skills being covered? Which designers do you cover with more depth?	Toys old and new - comparing toys from different time periods, discussing what materials they are made from and constructing a basic cup and ball toy.	Old fashioned toys - discuss likes and dislikes and how they are created when constructing their own.	Autumn - Into the forest / Into the outback Spring - Ice and Fire Summer - Picture This	Italy - pizza boxes Leonardo da Vinci Roman designs - eg aqueducts	We'll meet again Egyptian Pyramid designers. William Paterson and Oscar Carl Kerrison. (Anderson shelter) Nikola Tesla (Electricity)