

Curriculum Intent

A designer at Beaconhill Primary School should have -

- Levels of **originality** and the willingness to take **creative risks** to produce **innovative ideas** and **prototypes**.
- An excellent **attitude** to learning and **independent** working.
- The ability to use **time efficiently** and work **constructively** and **productively** with others.
- The ability to carry out **research**, show **initiative** and **evaluate** their own design choices in response to user's needs.
- The ability to **improve** and **edit** where required, demonstrating **resilience** and a **willingness** to perfect their work.
- The ability to act as **responsible** and **safe designers** and **makers**, working **ethically**, using **finite materials** carefully.
- A thorough **knowledge** of which **tools**, **equipment** and **materials** are needed to make their products **fulfil** their **purpose**.
- The ability to apply **cross curricular knowledge** in their work where necessary (especially mathematical and artistic skills).
- A **passion** for the subject and knowledge of up-to-date technological innovations in materials, products and systems.



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Curriculum Overview

| | Autumn | Spring | Summer | |
|------------|-----------------------|---------------------------|------------------------------------|-------------|
| Year One | Year A: Pizzas | Year B: Moving Stories | Year A: Bridges Year B: Puppets | |
| Year Two | | | | |
| Year Three | Sandwiches | Treat Boxes (CAD) | Tie-Dye | |
| Year Four | Christmas Decorations | Scones | Lighthouses | |
| Year Five | Flapjacks | Moving Parts | Beach Bags | |
| Year Six | | Crumble (CAD) | Bread | Fairgrounds |



Skills Progression

| | Autumn | Spring | Summer |
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| Year One / Year Two | Year A: Pizzas -Design purposeful, functional, appealing products for themselves and others based on design criteria. -Generate, develop, model and communicate their ideas through talking, drawing, and food testing. -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, measuring and mixing. -Select from and use a wide range of materials, components and ingredients. -Explore and evaluate a range of existing products. -Evaluate their ideas and products against design criteria. -Use the basic principles of a healthy and varied diet to prepare dishes and understand where food comes from. | Year B: Moving Stories -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. -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 according to their characteristics. -Explore and evaluate a range of existing products such as existing children's books with pop-up or moveable features. -Evaluate their ideas and products against design criteria. -Explore and use mechanisms [for example, levers and sliders] in their products. | Year A: Bridges Year B: Puppets -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, models, mock-ups, practise of sewing techniques and, where appropriate, information and communication technology. -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, sewing and finishing]. -Select from and use a wide range of materials and components, including construction materials, textiles and fastening agents according to their characteristics. -Explore and evaluate a range of existing products. -Evaluate their ideas and products against design criteria. -Build structures, exploring how they can be made stronger, stiffer and more stable. |
| Year Three | Sandwiches -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, prototypes and food testing. -Select from and use a wider range of tools, ingredients and equipment to perform practical tasks [for example, cutting, shaping and peeling]. -Investigate and analyse a range of existing products. -Evaluate their products against their own design criteria and consider the views of others to improve their work. | Treat Boxes (CAD) -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 diagrams or exploded diagrams as well as through computer-aided design. -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] according to their functional properties and aesthetic qualities. | Tie-Dye -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, prototypes and pattern pieces. -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. -Investigate and analyse a range of existing products. -Evaluate their ideas and products against their own design criteria and |

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| | <ul style="list-style-type: none"> -Understand and apply the principles of a healthy and varied diet. -Prepare food using a range of cooking techniques. -Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | <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. -Understand how key events and individuals in design and technology have helped shape the world. -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. | <ul style="list-style-type: none"> consider the views of others to improve their work. -Understand how key events and individuals in design and technology have helped shape the world. |
| Year Four | <p>Christmas Decorations</p> <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. -Generate, develop, model and communicate their ideas through discussion, annotated sketches and prototypes. -Select from and use a wider range of materials and equipment to perform practical tasks [for example, cutting, shaping, sewing and finishing]. -Accurately select from and use a wider range of materials and components, including construction materials and textiles according to their functional properties and aesthetic qualities. -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. -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. | <p>Scones</p> <ul style="list-style-type: none"> -Use research and develop design criteria to inform the design of appealing products that are fit for purpose, aimed at particular individuals or groups. -Generate, develop, model and communicate their ideas through discussion and annotated sketches. -Use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, mixing and finishing]. -Accurately select from and use a wider range of materials and ingredients, including construction materials, according to their functional properties and aesthetic qualities. -Investigate and analyse a range of existing products. -Evaluate products against their own design criteria and consider the views of others to improve their work. -Understand and apply the principles of a healthy and varied diet. -Prepare food using a variety of food using a range of cooking techniques. -Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. | <p>Lighthouses</p> <ul style="list-style-type: none"> -Develop design criteria to create 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 and prototypes. -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 according to their functional properties and aesthetic qualities. -Evaluate their products against design criteria and seek peer advice about how to improve work. -Understand how key events and individuals in design and technology have helped shape the world. -Apply understanding of how to strengthen, stiffen and reinforce more complex structures. -Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. |
| Year Five | <p>Flapjacks</p> <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. -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional or exploded diagrams. | <p>Moving Parts</p> <ul style="list-style-type: none"> -Develop design criteria to inform the design of functional, appealing products which involve movement. -Develop products which are fit for purpose, aimed at particular individuals or groups. | <p>Beach Bags</p> <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. -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes or pattern pieces. |

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| | <ul style="list-style-type: none"> -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, baking, mixing and finishing]. -Accurately select from and use a wider range of ingredients and components according to their functional properties and aesthetic qualities. -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 and apply the principles of a healthy and varied diet. -Prepare food using a range of cooking techniques. -Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. | <ul style="list-style-type: none"> -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional or exploded diagrams. -Select from and use a wider range of tools and equipment to perform practical tasks. -Accurately select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. -Investigate and analyse a range of existing products. -Evaluate their ideas and products against design criteria and consider the views of others to improve their work. -Understand how key designers have helped shape the world. -Use the properties of materials and the performance of structural elements to achieve functioning solutions. -Understand how more advanced mechanical systems used in their products enable changes in movement and force. | <ul style="list-style-type: none"> -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, sewing, joining and finishing]. -Accurately select from and use a wider range of materials and components and textiles according to their functional properties and aesthetic qualities. -Investigate and analyse a range of existing products. -Evaluate their 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. -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. | |
| <p>Year Six</p> | | <p>Crumble (CAD2CODE)</p> <ul style="list-style-type: none"> -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, prototypes and computer-aided design. -Select from and use a wider range of components and equipment to perform practical tasks. -Accurately select from and use a wider range of materials and components, including construction materials, electrical components including microbits according to their functional properties and aesthetic qualities. -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. -Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions. -Understand how more advanced electrical systems used in their products enable changes in movement and force. | <p>Bread</p> <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. -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional or exploded diagrams. -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, baking, mixing and finishing]. -Accurately select from and use a wider range of ingredients and components according to their | <p>Fairgrounds</p> <ul style="list-style-type: none"> -Develop design criteria to create innovative, functional, appealing products fit for purpose and suitable for a target market. -Generate, develop, model and communicate ideas through discussion, annotated sketches, cross sectional or exploded diagrams and prototypes. -Use a variety of equipment to perform practical tasks. -Accurately select from and use a wider range of construction materials and electrical components according to their functional properties and aesthetic qualities. -Investigate and analyse a range of existing products. |

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functional properties and aesthetic qualities.

- Investigate and analyse a range of existing products.
- Evaluate their products against their own design criteria and consider the views of others to improve their work.
- Understand and apply the principles of a healthy and varied diet.
- Prepare food using a range of cooking techniques.
- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

- Evaluate their products against design criteria and consider the views of others during product design.
- Understand how key designers and technology have helped shape the world.
- Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.
- Understand how more advanced electrical systems used in their products enable changes in movement and force.