



Wistaston Academy
Primary and Nursery School
Together We Learn • Together We Achieve

Design and Food Technology

Knowledge and Skills Progression 2023 - 2024

Early Years Statutory Framework Educational Programme Expressive Arts and Design

The development of children's artistic and cultural awareness supports their imagination and creativity.

It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials.

The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts.

The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Intent:

In our Early Years we capitalise on children's natural intuition to be creative, inventive and innovative by:

- Introducing them to the designed and made world and how things work
- Providing children with a purpose to design, make and evaluate functional products
- Encouraging children to investigate and explore a wide range of materials and tools
- Supporting children to find original solutions using resources in unique ways
- Nurturing children's confidence to try new things
- Fostering children's resourcefulness and resilience to enable them to take risks and learn from their mistakes

Nursery Curriculum

Development Matters

Explore different materials freely, 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.

Join different materials and explore different textures.

Learning Intentions:

- To use different materials in a variety of ways
- To control and manipulate a variety of tools
- To experiment with different techniques
- To join materials
- To make structures
- To talk about my ideas
- To talk about my plans
- To solve problems
- To try different ways of doing things

Children Know:

Design:

- Designs need to be thought about and planned
- The properties and uses of some different materials
- What different tools can be used for

Make:

- Materials can be used for joining
- How to join materials together
- Materials can be modified or changed
- Products can move, light up
- How to make a structure and stable
- How to make a structure balance
- Materials can be used for different things
- The possibilities and limitations of different materials
- How different tools can be used

Evaluate:

- Evaluations can lead to improvements
- The criteria for success

Children Can:

Design:

- Use my ideas
- Plan a design
- Adapt and modify their design

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| | | <p>Make:</p> <ul style="list-style-type: none"> • Talk about the features of different objects e.g. <i>light, sound</i> • Manipulate materials in different ways • Control and manipulate different tools • Join materials together • Make a structure stable and balance <p>Evaluate:</p> <ul style="list-style-type: none"> • Share and talk about my creations • Talk about how what went well and what did not work • Talk about how they will improve their design |
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Reception Curriculum

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| <p>Development Matters</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> | <p>Learning Intentions:</p> <ul style="list-style-type: none"> • To choose the most appropriate materials for a task • To manipulate materials in different ways • To choose the most appropriate tool for a task • To join materials in different ways • To make structures strong and stable • To plan before I make • To talk about my design • To change and modify my designs when necessary • To solve problems • To be resilient when things go wrong • To take risks • To learn from my mistakes | <p>Children Know:</p> <p>Design:</p> <ul style="list-style-type: none"> • Designs need to be thought about and planned • Designs can be changed and modified • The properties and uses of different materials • What different tools can be used for <p>Make:</p> <ul style="list-style-type: none"> • Materials can be used for joining • How to join materials together • Materials can be modified or changed • Products can move, light up, be structurally sound, and be safe and healthy • Some objects can move independently and some can be made to move • How to make a structure strong and stable • How to make a structure balance |
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| | | <ul style="list-style-type: none">• Materials can be used for different things and manipulated in different ways• The possibilities and limitations of different materials• How different tools can be used <p>Evaluate:</p> <ul style="list-style-type: none">• Evaluations can lead to improvements• The criteria for success <p>Children Can:</p> <p>Design:</p> <ul style="list-style-type: none">• Use my ideas• Plan a design• Adapt and modify their design <p>Make:</p> <ul style="list-style-type: none">• Talk about the features of different objects e.g. <i>light, sound, moving parts, safe to use</i>• Talk about and identify what different materials can be used for• Manipulate materials in different ways• Control and manipulate different tools• Join materials together• Adapt and modify materials to solve problems• Make a structure strong, stable and balance <p>Evaluate:</p> <ul style="list-style-type: none">• Share and talk about my creations• Talk about how what went well and what did not work• What will they do differently next time |
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Early Learning Goal Creating with Materials

- Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Children share their creations, explaining the process they have used.
- Children make use of props and materials when role playing characters in narratives and stories.

| | Year 1 | Year 2 | End of Key Stage Expectations |
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| Design | <ul style="list-style-type: none"> • explore how products have been created • design products that have a clear purpose and an intended user (this may be with adult support) • make simple diagrams to show my design • develop design criteria with a group | <ul style="list-style-type: none"> • explore how products have been created • design products that have a clear purpose and an intended user • use software to design • make diagrams to show my design • develop my own design criteria | <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, pattern pieces and computer-aided design |

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| <p style="text-align: center;">Make</p> | <ul style="list-style-type: none"> • cut safely using tools provided • demonstrate a range of cutting and shaping techniques such as tearing, cutting and folding • demonstrate a range of joining techniques such as gluing and combining materials to strengthen • use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products • create products using levers, wheels and winding mechanisms • refine the design as my work progresses • choose the right materials for making a product according to the properties needed | <ul style="list-style-type: none"> • cut materials safely using tools provided • measure and mark out to the nearest centimetre • demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling • demonstrate a range of joining techniques such as gluing, hinges, or combining materials to strengthen • join textiles using running stitch (with adult support if needed) • colour and decorate textiles using a number of techniques such as dyeing, adding sequins or printing • use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products • make products, refining the design as my work progresses • choose the right materials for making a product according to the properties needed | <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 • 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 |
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| Evaluate | <ul style="list-style-type: none"> • explore objects to identify likes and dislikes of the designs • suggest improvements to existing designs • evaluate my design or product | <ul style="list-style-type: none"> • explore objects to identify likes and dislikes of the designs • suggest improvements to existing designs and explain your ideas • evaluate my design or product against my own design criteria • talk about how historical events or people have helped shape the technological world today | <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 |
| Technical Knowledge | <ul style="list-style-type: none"> • use my understanding of materials and their properties to strengthen products • develop an understanding of how to use mechanical systems like gears, pulleys, levers and linkages in my designs and products | <ul style="list-style-type: none"> • use my understanding of materials and their properties to strengthen, stiffen or reinforce products • model designs using software | <ul style="list-style-type: none"> • 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] • explore computer aided design as a method of communicating ideas |

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| <p style="text-align: center;">Cooking and Nutrition</p> | <ul style="list-style-type: none"> • talk about how to be healthy • show understanding of a varied diet • show some understanding about where different foods come from • cut, peel or grate ingredients safely and hygienically with some support • show some understanding of safety when cooking ingredients | <ul style="list-style-type: none"> • talk about how to be healthy • show understanding of a varied diet • show some understanding about where different foods come from • cut, peel or grate ingredients safely and hygienically • measure or weigh using measuring cups or electronic scales • independently assemble and cook ingredients • show an understanding of safety when cooking • | <ul style="list-style-type: none"> • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from. |
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| | Year 3 | Year 4 | Year 5 | Year 6 | End of Key Stage Expectations |
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| Design | <ul style="list-style-type: none"> • show that my design meets a range of requirements • plan my ideas so I know which equipment and tools I need • describe a design using a labelled diagram | <ul style="list-style-type: none"> • design with purpose by identifying opportunities to design • describe a design using an accurately labelled diagram | <ul style="list-style-type: none"> • reflect on existing products to influence my own design ideas • design with a specific user and purpose in mind • produce prototypes to show my ideas • communicate ideas using annotated sketches | <ul style="list-style-type: none"> • reflect on existing products to influence my own design ideas • design with a specific user and purpose in mind considering the wider implications of design i.e sustainability and ethics not just profit • produce prototypes to show and develop my ideas • communicate ideas using computer-controlled design, annotated sketches and exploded diagrams | <ul style="list-style-type: none"> • 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 |

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| <p style="text-align: center;">Make</p> | <ul style="list-style-type: none"> • use a range of tools and equipment accurately and safety • measure, mark out, assemble and join materials and components with some accuracy | <ul style="list-style-type: none"> • cut materials accurately and safely by selecting appropriate tools • measure and mark out to the nearest millimetre • understand the need for a seam allowance • join textiles with appropriate stitching# • make products by working efficiently (e.g. by carefully selecting materials) | <ul style="list-style-type: none"> • cut materials more accurately • measure and mark out accurately to the nearest millimetre, checking carefully before cutting • ensure my product has a seam allowance • join textiles securely using a simple stitch • use a range of tools and equipment competently | <ul style="list-style-type: none"> • cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape) • create computer-controlled output devices with relevant programmes to operate them | <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 • select from and use a wider range of materials and components, including construction materials, electronics, textiles and ingredients, according to their functional properties and aesthetic qualities |
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| <p style="text-align: center;">Evaluate</p> | <ul style="list-style-type: none"> • look at products and talk about how they work • practise my evaluation skills by evaluating existing products • evaluate my own products • suggest changes that could be made to improve a product | <ul style="list-style-type: none"> • disassemble products to understand how they work • refine work and techniques as my work progresses, continually evaluating the product design • improve upon existing designs, giving reasons for choices • identify some of the great designers in all of the areas of study to generate ideas for designs | <ul style="list-style-type: none"> • test and evaluate my final product • dynamically evaluate the design to suggest improvements, considering the materials and methods that have been use • dynamically evaluate the appearance and function against the original criteria • practise my evaluation skills by evaluating existing products against criteria which I have set • explain why my finished product needs to be of good quality • think about the aesthetic qualities of my work • think about the functionality of my work | <ul style="list-style-type: none"> • make products through stages of prototypes, making continual refinements • ensure products have a high quality finish, using a range of skills • evaluate the design of products so as to suggest improvements to the user experience • combine elements of design from a range of inspirational designers throughout history, giving reasons for choices | <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 |
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| <p style="text-align: center;">Technical Knowledge</p> | <ul style="list-style-type: none"> • choose textiles for a purpose • join textiles and associated components (i.e. buttons, ribbons) in a different ways • explain how to join things using a range of methods • think about how to make my product strong • devise a template | <ul style="list-style-type: none"> • choose suitable techniques to construct products • strengthen materials using suitable techniques • apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut-outs) • select appropriate joining techniques • create series circuits • use scientific knowledge of the electricity to create a powered system (i.e. a switch or alarm) | <ul style="list-style-type: none"> • choose appropriate tools to cut and shape and justify choices with my knowledge (such as the nature of fabric may require sharper scissors than would be used to cut paper) • use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles • develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding) | <ul style="list-style-type: none"> • show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper) • create circuits that employ a number of components (such as LEDs, resistors, transistors and chips) • develop a range of practical skills to create products (such as cutting, gluing, sanding, mixing, shaping) • use innovative combinations of electronics (or computing) and mechanics in product designs • write code to control and monitor models or products • Identify and correct errors in programming code | <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use electrical systems in their products • apply their understanding of computing to program, monitor and control their products. |
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| <p style="text-align: center;">Cooking and Nutrition</p> | <ul style="list-style-type: none"> • choose the right ingredients for a product • say what to do to be hygienic and safe • use equipment safely • make sure that my product looks attractive • describe how my combined ingredients come together | <ul style="list-style-type: none"> • prepare ingredients hygienically using appropriate utensils • measure ingredients to the nearest gram accurately • follow a recipe • assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking) • understand what seasonality is and how this impacts on the food supply chain | <ul style="list-style-type: none"> • Understand the importance of correct storage and handling of ingredients • measure accurately to the nearest gram and know how to use estimation to identify errors • demonstrate a range of baking and cooking techniques • create and refine recipes, including ingredients, methods and finish | <ul style="list-style-type: none"> • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms) • measure accurately and calculate ratios of ingredients to scale up or down from a recipe • demonstrate a range of cooking techniques • create and refine recipes, including ingredients, methods, cooking times and temperatures • understand differences in dietary requirement i.e. vegetarian, dairy free, Halal | <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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