



Intent for Design and Technology

At Mary Bassett, Design Technology is an inspiring, creative and practical subject. It aims to provide pupils with the opportunities to design, develop and make products, using their imagination and adaptability towards solving real and relevant problems.

In line with our school vision, pupils are given the opportunity to express themselves, and build resilience, through making mistakes and trying new things. They will critique, evaluate and test their ideas and products and the work of others. The progression of skills in DT lessons is based on the National Curriculum. Through real life projects, pupils acquire a broad range of subject skills and knowledge, and draw on disciplines such as mathematics, science, engineering, computing and art. Through their DT learning experiences, we aim for our pupils to learn to take risks and to become resourceful, innovative, enterprising and capable citizens.

The DT experience at Mary Bassett helps develop critical thinking and understanding of the wider world. Pupils will use a variety of tools, materials and mediums, to expand and enhance their skill set. Applying principles of nutrition, and learning to cook are also a key element of DT in our school. From designing toys using wheels and axis and making a Bedfordshire Clanger in Key Stage 1, to creating pulleys, weaving a Mayan purse, and pizza design and cooking in Key Stage 2, their experience will engage them in a variety of imaginative ways.

DT engagement raises confidence and self esteem. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes identified in the DT Curriculum at Mary Bassett.

Design and Technology Progression Map

| Key skills | Year 1 | Year 2 | Year 3 | Year 4 |
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| Designing | | | | |
| Understanding contexts, users and purposes | <ul style="list-style-type: none"> • work within a range of familiar and accessible contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • know what products they are designing and making • know whether their products are for themselves or other users • begin to describe what their products are for • begin to explain how their products will work • begin to explain how they will make their products suitable for their intended users • begin to understand and use simple design | <ul style="list-style-type: none"> • work confidently within a range of familiar and accessible contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for • say how their products will work • explain how they will make their products suitable for their intended users • interpret and use simple design criteria to help develop their ideas | <ul style="list-style-type: none"> • work within a broader range of contexts such as the home, school, leisure, culture, enterprise, industry and the wider environment • begin to describe the purpose of their products • indicate some of the design features of their products that will appeal to intended users • explain how some parts of their products work • gather simple information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas | <ul style="list-style-type: none"> • work confidently within a broader range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work to fulfil the design brief • carry out research, beginning to use a range of methods including surveys, interviews, questionnaires and web-based resources • identify the needs, wants, |

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| | criteria to help develop their ideas | | | preferences and values of particular individuals and groups <ul style="list-style-type: none"> develop a simple design specification to guide their thinking |
| Generating, developing, modelling and communicating ideas | <ul style="list-style-type: none"> begin to generate ideas by drawing on their own experiences with guidance use knowledge of existing products to help come up with ideas begin to develop and communicate ideas by talking and drawing model ideas by exploring materials, components and construction kits begin to use information and communication technology, where appropriate, to develop and communicate their ideas | <ul style="list-style-type: none"> generate ideas by drawing on their own experiences use own knowledge of existing products to help come up with ideas develop and communicate ideas by talking and drawing model ideas by exploring materials, components and construction kits and by making templates and mock-ups use information and communication technology, where appropriate, to develop and communicate their ideas | <ul style="list-style-type: none"> begin to share and clarify ideas through discussion with adults and peers begin to model their ideas using prototypes and pattern pieces begin to include use of annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas begin to use computer-aided design to develop and communicate their ideas generate realistic ideas, focusing on the needs of the user make design decisions that take account of the availability of resources | <ul style="list-style-type: none"> share and clarify ideas through discussion with adults and peers model their ideas using prototypes and pattern pieces use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas use computer-aided design to develop and communicate their ideas begin to generate innovative ideas, drawing on research make design decisions, taking account of constraints such as time, resources and cost |

Making

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| <p>Planning</p> | <ul style="list-style-type: none"> • begin to plan by suggesting what to do next and following prompts from adults • begin to select from a range of known tools and equipment, explaining their choices • Begin to select from a range of known materials and components according to their characteristics | <ul style="list-style-type: none"> • plan by suggesting what to do next • select from a range of tools and equipment, explaining their choices • select from a range of materials and components according to their characteristics | <ul style="list-style-type: none"> • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using, beginning to use relevant vocabulary • select materials and components suitable for the task, beginning to explain their choice of materials and components according to functional properties and aesthetic qualities • order the main stages of making | <ul style="list-style-type: none"> • confidently select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities • Begin to produce appropriate lists of tools, equipment and materials that they need • begin to formulate step-by-step plans as a guide to making |
| <p>Practical skills and techniques</p> | <ul style="list-style-type: none"> • with adult guidance follow procedures for safety and hygiene • begin to use a range of materials and | <ul style="list-style-type: none"> • with adult prompting follow procedures for safety and hygiene • use an increasing range of materials and | <ul style="list-style-type: none"> • know and follow procedures for safety and hygiene • use a wider range of materials and | <ul style="list-style-type: none"> • independently follow procedures for safety and hygiene • choose and use a wider range of materials and |

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| | <p>components, including construction materials and kits, textiles, food ingredients and mechanical components</p> <ul style="list-style-type: none"> begin to measure, mark out, cut and shape materials and components begin to assemble, join and combine materials and components begin to use finishing techniques, including those from art and design | <p>components, including construction materials and kits, textiles, food ingredients and mechanical components</p> <ul style="list-style-type: none"> measure, mark out, cut and shape materials and components assemble, join and combine materials and components use finishing techniques, including those from art and design | <p>components than KS1, including construction materials</p> <ul style="list-style-type: none"> and kits, textiles, food ingredients, mechanical components and electrical components measure, mark out, cut and shape materials and components with some accuracy assemble, join and combine materials and components with some accuracy apply a range of finishing techniques, including those from art and design, with some accuracy | <p>components than KS1, including construction materials</p> <ul style="list-style-type: none"> and kits, textiles, food ingredients, mechanical components and electrical components accurately measure, mark out, cut and shape materials and components accurately assemble, join and combine materials and components accurately apply a range of finishing techniques, including those from art and design begin to use techniques that involve a number of steps begin to demonstrate resourcefulness when tackling practical problems |
| Evaluating | | | | |
| Own ideas and products | <ul style="list-style-type: none"> begin to talk about their design ideas and what they are making | <ul style="list-style-type: none"> talk about their design ideas and what they are making | <ul style="list-style-type: none"> identify the strengths and areas for development in their | <ul style="list-style-type: none"> confidently identify the strengths and areas for development in their |

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| | <ul style="list-style-type: none"> • Begin to make simple judgements about their products and ideas against design criteria • make simple suggestions of how their products could be improved | <ul style="list-style-type: none"> • make simple judgements about their products and ideas against design criteria • suggest how their products could be improved | <p>ideas and products</p> <ul style="list-style-type: none"> • begin to consider the views of others, including intended users, to improve their work • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products | <p>ideas and products</p> <ul style="list-style-type: none"> • consider the views of others, including intended users, to improve their work • begin to critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification |
| Existing products | <ul style="list-style-type: none"> • begin to explore what products are • begin to explore who products are for • begin to explore what products are for • begin to explore how products work • begin to explore how products are used • begin to explore where products might be used • begin to explore what materials products are made from | <ul style="list-style-type: none"> • explore what products are • explore who and what products are for • explore how products work • explore how products are used • explore where products might be used • explore what materials products are made from • explore, discuss and justify what they like and dislike about | <ul style="list-style-type: none"> • begin to investigate and analyse how well products have been designed • begin to investigate and analyse how well products have been made • begin to investigate and analyse why materials have been chosen • begin to investigate and analyse what methods of construction have been used | <ul style="list-style-type: none"> • investigate and analyse how well products have been designed • investigate and analyse how well products have been made • investigate and analyse why materials have been chosen • investigate and analyse what methods of construction have been used • investigate and analyse how well products work |

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| | <ul style="list-style-type: none"> begin to explore and discuss what they like and dislike about products | <p>products</p> | <ul style="list-style-type: none"> begin to investigate and analyse how well products work begin to investigate and analyse how well products achieve their purposes begin to investigate and analyse how well products meet user needs and wants investigate and analyse who designed and made the products investigate and analyse where products were designed and made investigate and analyse when products were designed and made investigate and analyse whether products can be recycled or reused | <ul style="list-style-type: none"> investigate and analyse how well products achieve their purposes investigate and analyse how well products meet user needs and wants investigate and analyse how much products cost to make investigate and analyse how innovative products are investigate and analyse how sustainable the materials in products are investigate and analyse what impact products have beyond their intended purpose |
| <p>Key events and individuals</p> | | | <ul style="list-style-type: none"> begin to learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products | <ul style="list-style-type: none"> know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products |

Technical Knowledge

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| <p>Making products work</p> | <ul style="list-style-type: none"> • begin to know about the simple working characteristics of materials and components • begin to know about the movement of simple mechanisms such as levers, sliders, wheels and axles • begin to explore and understand how freestanding structures can be made stronger, stiffer and more stable • begin to know that a 3-D textiles product can be assembled from two identical fabric shapes • begin to know that food ingredients should be combined according to their sensory | <ul style="list-style-type: none"> • know about the simple working characteristics of materials and components • know about the movement of simple mechanisms such as levers, sliders, wheels and axles • know how freestanding structures can be made stronger, stiffer and more stable • know that a 3-D textiles product can be assembled from two identical fabric shapes • know that food ingredients should be combined according to their sensory characteristics • know the correct | <ul style="list-style-type: none"> • begin to use learning from science to help design and make products that work • begin to use learning from mathematics to help design and make products that work • know that materials have both functional properties and aesthetic qualities • know that materials can be combined and mixed to create more useful characteristics • know that mechanical and electrical systems have an input, process and output • know the correct technical vocabulary for the projects they are | <ul style="list-style-type: none"> • know how to use learning from science to help design and make products that work • know how to use learning from mathematics to help design and make products that work • know that materials have both functional properties and aesthetic qualities and apply these in their products • know that materials can be combined and mixed to create more useful characteristics and apply this in their products • know that mechanical and electrical systems have an input, process and output |
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| | <p>characteristics</p> <ul style="list-style-type: none"> • know the correct technical vocabulary for the Year 1 projects they are undertaking | <p>technical vocabulary for the Year 2 projects they are undertaking</p> | <p>undertaking in Year 3</p> <ul style="list-style-type: none"> • know that mechanical systems such as levers and linkages or pneumatic systems create movement • know that simple electrical circuits and components can be used to create functional products • begin to know how to program a computer to control their products • begin to learn how to make strong, stiff shell structures • begin to know that a single fabric shape can be used to make a 3D textiles product • know that food ingredients can be fresh, pre-cooked and processed | <ul style="list-style-type: none"> • know the correct technical vocabulary for the projects they are undertaking in Year 4 • know how mechanical systems such as cams or pulleys or gears create movement • know how more complex electrical circuits and components can be used to create functional products • know how to program a computer to monitor changes in the environment and control their products • know how to reinforce and strengthen a 3D framework • know that a 3D textiles product can be made from a combination of fabric shapes • know that a recipe can be adapted by adding or substituting one or more ingredients |
| <p>Cooking and nutrition</p> | | | | |

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| <p>Where food comes from</p> | <ul style="list-style-type: none"> • begin to understand that all food comes from plants or animals • begin to understand that food has to be farmed, grown elsewhere (e.g. home) or caught | <ul style="list-style-type: none"> • know that all food comes from plants or animals • know that food has to be farmed, grown elsewhere (e.g. home) or caught | <ul style="list-style-type: none"> • understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world | <ul style="list-style-type: none"> • understand that of the food that is grown, reared and caught, that seasons may affect the food available • know how food is processed into ingredients that can be eaten or used in cooking |
| <p>Food preparation, cooking and nutrition</p> | <ul style="list-style-type: none"> • begin to know how to name and sort foods into the five groups in The eatwell plate • know that everyone should eat at least five portions of fruit and vegetables every day • begin to know how to prepare simple dishes safely and hygienically, without using a heat source • know how to use techniques such as cutting, peeling and grating and begin to | <ul style="list-style-type: none"> • know how to name and sort foods into the five groups in The eatwell plate • know that everyone should eat at least five portions of fruit and vegetables every day and why it is important • know how to prepare simple dishes safely and hygienically, without using a heat source • know how to use techniques such as cutting, peeling and grating and apply them | <ul style="list-style-type: none"> • begin to know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically • including, where appropriate, the use of a heat source • know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking and practise them • know that a healthy diet is made up from a variety and balance of | <ul style="list-style-type: none"> • know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically • including, where appropriate, the use of a heat source • know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking and apply them • begin to understand that recipes can be adapted to change the |

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| | practise them | | <p>different food and drink, as depicted in The eatwell plate</p> <ul style="list-style-type: none">• know that to be active and healthy, food and drink are needed to provide energy for the body | <p>appearance, taste, texture and aroma</p> <ul style="list-style-type: none">• know that different food and drink contain different substances - nutrients, water and fibre - that are needed for health |
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