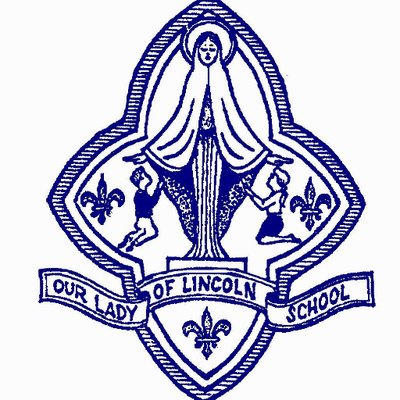
**Our Lady of Lincoln Catholic Primary School**

**Design & Technology Curriculum**



**Design and Technology Whole School Long Term Overview**

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|  | Project 1 | Project 2 |
| YEAR 1 | **Construction**:  Nature Garden Items  **Is plastic better than wood?** | **Textiles**:  Purses  **Is it better to buy products or make them?** |
| YEAR 2 | **Food**:  Healthy Salads  **If I only ate vegetables, would I be healthy?** | **Vehicles**:  Balloon Buggies  **Can air make a toy move?** |
| YEAR 3 | **Food**:  Pizzas  **Should there be strawberries in the supermarket in Winter?** | **Construction**:  Musical Instruments  **Can you play an instrument without touching it?** |
| YEAR 4 | **Moving Toys**  **Do moving toys need batteries?** | **Textiles:**  Bag 4 Life  **Is a canvas bag better for the Earth than a plastic bag?** |
| YEAR 5 | **Electrical Systems:**  Torches  **Are expensive products more effective?** | Construction:Pizza Ovens **Do ovens belong in the kitchen?** |
| YEAR 6 | **Food:**  Brazilians Burgers  **Can burgers be healthy?** | **Textiles:**  Upcycling Clothes  **Is ‘fast fashion’ sustainable?** |

**Year 1 DT Programme of Study**

**Project:** Textiles: Money containers

**Question:** Is it better to buy products or make them?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers: Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know how evaluation of existing products can help create a new design:**  (**Communication)**   * Further develop evaluation of existing products * Draw, label and pick out features of existing designs including money bags, purses and wallets * Explore how materials have been joined NB running stitch, backward stitch, running backward stitch, oversew stitch, glue, staples   **To know how to safely use tools and techniques for working with textiles** (**Communication, Health)**   * Follow Health and safety rules and understand why these are needed * Explore the challenges when working with textiles rather than paper e.g. harder to cut, stronger glue is needed to add embellishment, textile can stretch * Gain experience using simple sewing stitches using a safety needle.   **To know how making a template/mockup can be useful for making an effective final product (Communication, Aspiration)**   * Trial techniques and ideas, testing for effectiveness * Use evaluation to identify problems and suggest relevant ways to change it * Revisit design to make changes before making final product   **To know ways to make a textile product look more appealing** (**Communication)**   * Explore how existing products have been embellished. * Design should include colours and simple finishing techniques such as adding fabric, beads and button applique.   **To know how to create a product for carrying money, joining textiles effectively and adding decoration (Aspiration)**   * End product will be a money container such as a bag, wallet or purse designed by the pupils for themselves using fabric. It will be embellished to make the product look effective as well as being functional.   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of 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  • generate ideas by drawing on their own experiences  • use 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 mockups  Making  • follow procedures for safety and hygiene  • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components  • 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  Evaluation- existing products  explore:  • what products are  • what products are for  • how products work  • how products are used  • what materials products are made from  • what they like and dislike about products  Evaluation-  talk about their design ideas and what they are making  • make simple judgements about their products and ideas against design criteria  *• suggest how their products could be improved*  Technical knowledge  • about the simple working characteristics of materials and components  *• the correct technical vocabulary for the projects theyare undertaking*  *• that a 3-D textiles product can be assembled from two identical fabric shapes* | **Core vocabulary:**  **Tier 3**  running stitch, backward stitch, running backward stitch, oversew stitch  **Tier 2**  Materials  Components  Products  Strong  Fragile  Tie  Join  Sew  Cut  Measure  Strengthen  explore  evaluate  design  develop  modify |
| **Curriculum threads to be covered:-**  Reading –   * discuss word meanings, linking new meanings to those already known, * draw on what they already know or on background information and vocabulary provided by the teacher.   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence. * To encourage respect for other people   PSHE – Living in the Wider World ˃Money - CORAM Life Education- ***How should we look after our money?*** (Year 1) | | |
| **Previous learning which will support the learning and skill development in this topic:**  Y1 construction: Evaluation, health and safety  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. | | |

[https://www.tts-group.co.uk/money-containers-dt-clas s-kit/1006264.html?cgid=Primary-D--T-Project\_Kits](https://www.tts-group.co.uk/money-containers-dt-class-kit/1006264.html?cgid=Primary-D--T-Project_Kits)

**Year 1 DT Programme of Study**

**Project:** Construction: Nature Garden

**Question:** Is plastic better than wood?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know ways to use existing products to develop own ideas**  **(Communication, Aspiration)**   * Explore a range of existing products, focusing on what products are, their use, and whether they are good at their job * Discuss and explore ways to make similar products using similar materials   **To know ways to communicate ideas, linking to existing products.**  **(Communication)**   * Use drawing and talking to develop and communicate ideas * Be able to describe what they are making and what it is for * Show ways it is similar to existing products   **To know how to work safely with materials and tools, following health and safety rules (Communication, Health)**   * Involve pupils in creating rules, explaining why these rules are needed. * Cut, shape and join materials in appropriate ways.   **To know how to create a product suitable for outdoor use, combining appropriate materials in secure ways. (World Citizen, Aspiration)**   * End product will be made from weatherproof materials for our nature garden, addressing a current need or environmental issue, e.g. * Planters to improve the way our nature garden looks by displaying plants * Wildlife homes eg nest boxes, insect hotels, hedgehog homes * Gnomes, elves, fairies to display in trees and around the garden   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of 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  • describe what their products are for  • generate ideas by drawing on their own experiences  • use knowledge of existing products to help come up with ideas  • develop and communicate ideas by talking and drawing  Making  • follow procedures for safety and hygiene  • use a range of materials and components, including  construction materials and kits, textiles, food ingredients and mechanical components  • 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  Evaluation- existing products  explore:  • what products are  • what products are for  • how products work  • how products are used  • where products might be used  • what they like and dislike about products  Technical knowledge  • about the simple working characteristics of materials and components  • how freestanding structures can be made stronger, stiffer and more stable  *• the correct technical vocabulary for the projects they are undertaking* | **Core vocabulary:**  **Tier 3**  **Tier 2**  Malleable  Stiff  Hard  Soft  Flexible  Waterproof  Weatherproof  Materials  Components  Products  strengthen  environment  explore  evaluate  develop |
| **Curriculum threads to be covered:-**  Reading –   * listen to and discuss a wide range of poems, stories and non-fiction at a level beyond that at which they can read independently, * be encouraged to link what they read or hear read to their own experiences.   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence. * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely * To encourage respect for other people   PSHE –  Living in the Wider World ˃Caring for the Environment- CORAM Life Education- ***Around and about the school*** (Year 1) | | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. | | |



**Year 2 DT Programme of Study**

**Project:** Mechanical systems: Balloon buggies

**Question:** Can air make a toy move?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know how wheels turn using an axle and bearings**   * Explore existing product, focusing on how wheels work. * Explore how they can make turning wheels with a straws, dowels and wheels   **To know that accuracy is important to create an effective mechanism (Communication, Aspiration)**   * Investigate the effects of inaccuracies such as axles not being parallel, wheels irregular shapes, axles not cut long enough * Ensure careful and accurate measurement for cutting and joining components   **To know ways to make a product look more appealing** (**Communication)**   * Use simple planning to create design ideas for the appearance of the vehicle * Use finishing techniques to improve the appearance of the product   **To know that evaluation can make a product more effective (Aspiration)**   * Trial vehicles with the balloon mechanism * Evaluate techniques and investigate ways to affect the speed of the vehicle * Evaluate techniques and investigate ways to affect the distance travelled   **To know how to create a toy vehicle with moving wheels. (Aspiration)**   * End product will be a toy vehicle with bearings, axels and wheels. * End product will use a balloon to provide the force to power movement. * End product will be accurately cut and joined for effective movement.   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of 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  Making  • follow procedures for safety and hygiene  • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components  • 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  Evaluation-    Talk about their design ideas and what they are making  • make simple judgements about their products and ideas against design criteria  *• suggest how their products could be improved*  explore:  • how products work  • how products are used  • what they like and dislike about products  Technical knowledge  • about the simple working characteristics of materials and components  • about the movement of simple mechanisms such as levers, sliders, wheels and axles  *• the correct technical vocabulary for the projects they*  *are undertaking* | **Core vocabulary:**  **Tier 3**  Axle  Bearing  wheel  **Tier 2**  Materials  Components  Products  Parallel  Measure  ruler  explore  evaluate  design  develop  modify |
| **Curriculum threads to be covered:-**  Reading –   * discuss and clarify the meanings of words, linking new meanings to known vocabulary, * ask and answer questions.   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence. * To encourage respect for other people   PSHE – Living in the Wider World ˃Caring for the Environment- CORAM Life Education- ***How can we look after our environment*** (Year 2) | | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.  Y1 construction: cutting and joining materials  Unit links to future work with forces in science. | | |

**Year 2 DT Programme of Study**

**Project:** Food: Healthy Salad

**Question:** If I ate nothing but vegetables, would I be healthy?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know where everyday foods come from (Communication, World Citizen Aspiration)**   * Use a range of sources (internet, videos, books etc) to learn about how plants are grown for food on farms, allotments and gardens * Use a range of sources to find out about how animals are used as a source of food e.g. eggs, milk and meat   **To know how to eat a balanced diet in order to be happy and healthy**  **(Communication, Health)**   * Use the Eatwell Plate to understand how diet should be made up * Know that we should eat 5 portions of fruit and vegetables each day * Sort food into food groups and explore ways to make up a balanced meal.   **To know ways to use ICT to develop and communicate ideas**  (**Communication)**   * While evaluating ingredients, pupils photograph foods and combinations on the IPads. Then they edit images to add notes about flavour, texture and sensory characteristics * Use ICT to plan final product, adding labels and notes to explain choices, linking to the given design criteria.   **To know how to use cold food preparation techniques safely (Health)**   * Recognise and name an appropriate knife and use it safely to cut vegetables and fruits * Recognise and name a grater and use it safely to grate appropriate foods such as cheese and carrot. * Recognise and name a vegetable peeler and use it safely to peel appropriate foods such as carrot and apple.   **To know how to prepare a cold, balanced meal (Health, Aspiration)**   * The end product will be a salad with a variety of sensory qualities such as textures, shapes, colours and flavours   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Cooking and nutrition:  Where food comes from  • that all food comes from plants or animals  • that food has to be farmed, grown elsewhere (e.g. home) or caught  Nutrition and food preparation  • how to name and sort foods into the five groups in The eatwell plate  • that everyone should eat at least five portions of fruit and vegetables every day  • how to prepare simple dishes safely and hygienically, without using a heat source  • how to use techniques such as cutting, peeling and grating  Technical knowledge  *• that food ingredients should be combined according to their sensory characteristics*  *• the correct technical vocabulary for the projects they are undertaking*  Designing  • use information and communication technology, where appropriate, to develop and communicate their ideas  • use simple design criteria to help develop their ideas.  Making  *• 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  • follow procedures for safety and hygiene  • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components  • measure, mark out, cut and shape materials and components  • assemble, join and combine materials and components  Evaluating  • talk about their design ideas and what they are making  • make simple judgements about their products and ideas against design criteria  *• suggest how their products could be improved*  explore:  • what products are  • what they like and dislike about products | **Core vocabulary:**  **Tier 3**  Carbohydrate  Protein  Fibre  Fats  Sugars  Vitamins  Minerals  Dairy  **Tier 2**  Cut  Peel  Grate  Slice  Dice  Shred  Colour  Texture  Crunchy  Creamy  Soft  Bitter  Sweet  Salty  Acidic |
| **Curriculum threads to be covered:-**  Reading –   * Listen to, discuss and express views about a wide range of non-fiction at a level beyond that at which they can read independently, * Draw on what they already know or on background information and vocabulary provided by the teacher.   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence. * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely *(values embedded when exploring food sources; identify benefits of a healthy balanced diet).* * To encourage respect for other people   PSHE – Health and Wellbeing ˃Healthy Lifestyles- CORAM Life Education- ***My Body Needs*** (Year 2) | | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.  Y1- Evaluation skills  Y2- Testing and making changes to improve  Links to science in later years- balanced diet and nutrition. | | |

**Year 3 DT Programme of Study**

**Project:** Construction: Musical instruments

**Question:** Can you play an instrument without touching it?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know that innovations in instrument design are still occurring, although most instrument concepts date back far into History (Aspiration World Citizen)**   * The original inventors of many instruments is unknown but musical instruments are evident throughout history (37,000 years!) * Briefly look at how a particular instrument has developed over time e.g. guitar * Find out about a relatively modern instrument, the Theremin, which was invented by a scientist developing proximity sensors during Wartime. <https://www.youtube.com/watch?v=K6KbEnGnymk>   **To know how existing musical instruments are used and constructed** (**Aspiration)**   * Explore a range of existing musical instrument, how they are used to make sound and the materials used. * Investigate how material choices affect the sound made * Identify how structures have been made strong and stiff * Experiment with making simple instruments such as shakers, beaters, scrapers   **To know how to share my ideas using annotated sketches (Communication)**   * Sketch design ideas, using annotations to explain material choices and make links to the evaluation of existing products   **To know how to join and combine materials in appropriate ways**  **(Communication Health)**   * Make temporary joins to develop and test ideas e.g. elastic bands around pots, using blutac and masking tape. * Discuss strengthening and stiffening techniques on existing products and apply * Follow safety rules when using a hammer, using blutac or pegs to hold panel pins in place to avoid hammered fingers, to join wood. * Know how to use PVA thinly to speed up drying time * Follow safety rules to join screw eyes to wood by twisting by hand   **To know how to cut materials in appropriate ways** (**Communication Health)**   * Understand which tools are appropriate for cutting different materials * Follow safety rules when using a junior hacksaw to cut wood, including using a vice to secure the wood and board to protect the table surface   **To know how to construct a functional musical instrument** (**Aspiration)**   * End product will be a functional stringed instruments constructed with wood. * The pupils will be able to justify their choice of strings and explain how they have joined materials effectively   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment  • explain how particular parts of their products work  • share and clarify ideas through discussion  • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas  Making  • select materials and components suitable for the task  • explain their choice of materials and components according to functional properties and aesthetic qualities  • follow procedures for safety and hygiene  • use a wider range of materials and components than KS1, including construction materials 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  Evaluating  • why materials have been chosen  • what methods of construction have been used  \* about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products  Technical knowledge  • how to use learning from science to help design and make products that work  • how to use learning from mathematics to help design and make products that work  *• that materials can be combined and mixed to create more useful characteristics*  *• the correct technical vocabulary for the projects they are undertaking*  • how to make strong, stiff shell structures | **Core vocabulary:**  **Tier 3**  Theremin  Hacksaw  Hammer  Vice  Screw eyes  Panel pins  Staccato  Legato  **Tier 2**  Develop  Innovate  Tension  tuning  Wind  Percussion  String  Keyboard  Timbre  Pitch  volume  Strength  Stiffness |
| **Curriculum threads to be covered:-**  Reading –   * listen to and discuss a wide range of non-fiction and reference books or textbooks, * use dictionaries to check the meaning of words that they have read.   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence. * To encourage respect for other people   PSHE – Health and Wellbeing ˃Keeping Safe- CORAM Life Education- ***Helping each other to keep safe*** (Year 3)                 Health and Wellbeing ˃Keeping Safe- CORAM Life Education- ***Safe or Unsafe?*** (Year 3) | | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.  Y1- nature garden- strengthening freestanding structures,  Y1- Textiles- drawing and labelling design  Y2- balloon buggies- joining different materials including wood | | |

**Year 3 DT Programme of Study**

**Project:** Food: Seasonal pizzas

**Question:** Should there be strawberries in the supermarkets in winter?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know that to be healthy we need a variety and balance of food.** (**Health)**   * Revisit the Eatwell plate which was introduced in Y2, focusing on the need to eat a range of foods in appropriate amounts. * Sort foods into groups and understand how each group is used by the body. * Explore how some common foods have been processed, which may make it harder to identify which group it belongs to.   **To know that seasons affect the food which is available**  **(World Citizen Aspiration Communication)**   * Find out about seasonal British produce, with a focus on fruit and vegetables. * Understand that fruits and vegetables are grown on farms, in gardens or can sometimes be found in the wild (e.g. foraging). * Discuss where out-of-season products come from and how this affects the environment, at an appropriate level. * Identify food which is fresh, precooked, and processed and why this is done (NB availability all year round)   **To know how sensory qualities of ingredients chosen can affect a final product (Communication Aspiration)**   * Taste, evaluate and compare ingredients, deciding if they like or dislike them * Describe sensory qualities such as taste, texture, smell, colour * Explore combining ingredients with similar and contrasting properties * Explain how this has affected their decision making in their plan   **To know how to safely and hygienically use food preparation techniques. (Aspiration  Health, World Citizen)**   * Create hygiene rules for preparing food and understand why these are needed * Revisit safely using tools to grate, peel and slice to prepare vegetables * Introduce techniques mixing, kneading and baking to make pizza dough   **To know how to prepare a savoury meal with foods from a range of groups**   * The end product will be a pizza with seasonal toppings * The dough will have been prepared by the pupils through mixing and kneading * Pupils will be able to explain what they would serve with their pizza in order to make it a balanced meal.   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Food preparation and nutrition  • that a healthy diet is made up from a variety and balance of different food and drink, as  depicted in The eatwell plate  • that to be active and healthy, food and drink are needed to provide energy for the body  • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source  • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking  • 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  • that seasons may affect the food available  • how food is processed into ingredients that can be eaten or used in cooking  Technical knowledge  *• that food ingredients can be fresh, pre-cooked and processed*  Designing  • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment  *• make design decisions that take account of the availability of resources*  Making  • explain their choice of materials and components according to functional properties and aesthetic qualities  • select tools and equipment suitable for the task  • follow procedures for safety and hygiene  • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components  Evaluating  • identify the strengths and areas for development in their ideas and products | **Core vocabulary:**  **Tier 3**  Carbon footprint  Food miles  pre-cooked  processed  Fresh  **Tier 2**  Hygiene  Safety  Grate, Peel  Slice, Mix  Knead, Bake  Bitter, Sweet  Savoury  Salty  Crunchy  Soft, Firm  Contrasting  similar  Seasonal  Forage, Farm  carbohydrate  protein  vitamins and  minerals  dairy  fibre |
| **Curriculum threads to be covered:-**  Reading –   * ask questions to improve their understanding of a text, * retrieve and record information from non-fiction.   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely (links to this value made in raising awareness of seasonal British produce and how contributions can be made by growing your own food in gardens; raise awareness of school nature garden) * To encourage respect for other people   PSHE – Health and Wellbeing ˃Healthy Lifestyles- CORAM Life Education- ***Derek cooks dinner!*** (Year 3) | | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.  Y2- Healthy Salads, food preparation (cut, peel, grate), food groups and balanced meals (Eatwell plate) | | |

\*\*Across KS2 pupils should know

**Year 4 DT Programme of Study**

**Project:** Textiles: Canvas bags

**Question:** Is a canvas bag better for the Earth than a plastic bag?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know that products are designed for a particular purpose and audience**  **(World Citizen)**   * Discuss why canvas bags have become so common. Why are they made from canvas? Who are they aimed at? Why? * Evaluate existing products, comparing supermarket bags for life, fold-up bags, canvas bags considering size, materials and design linked to target audience. * Find out when and where these products were designed * Research and develop own design criteria for a bag to appeal to 10-14 year olds to encourage them to take their own bag when shopping with their friends. * Evaluation should refer back to the design criteria and target audience   **To know how making a pattern can help to create a more effective final product. (Aspiration Communication)**   * Show briefly how patterns are used to make more complex textile products by designers. * Pupils make a simple pattern to scale to show the body of the bag and 2 handles, marking where the top hem will be stitched and where the piece will be folded and joined. * Use pattern development to explore the proportions of the bag, including handle length, and to understand the order things will need to be sewn.   **To know how they can use materials and finishing techniques to make the product both functional and aesthetically appealing. (Communication)**   * Use evaluation of existing products, with reference to science work on the properties of materials, to choose materials for their product. * Discuss the balance of style vs substance. * Plan finishing techniques to appeal to the target audience using annotated drawings   **To know how to make simple stitches accurately and effectively**   * Revisit running stitch, oversew stitch, backward stitch and running backward stitch introduced in Year One. Explore the strength of the join made by each. * Discuss the use of an ‘x’ shape where the handles meet the bag on existing products to add strength. * Practice and develop accuracy and control   **To know how to make a strong textile shopping bag to reduce single use plastic bags being purchased by young people (World Citizen Aspiration)**   * End product will be a fabric bag made from a folded piece of fabric with a hemmed top, sewn along 2 sides, with 2 handles from an appropriate ribbon, rope or fabric. * The bag will have decoration which will appeal to 10-14 year olds.   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a 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  • gather information about the needs and wants of particular individuals and groups  • develop their own design criteria and use these to inform their ideas  • model their ideas using prototypes and pattern pieces  • generate realistic ideas, focusing on the needs of the user  *• make design decisions that take account of the availability of resources*  Making  *• order the main stages of making*  • follow procedures for safety and hygiene  • use a wider range of materials and components than KS1, including construction materials 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  Evaluating  • identify the strengths and areas for development in their ideas and products  • 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  investigate and analyse:  • how well products have been designed  • how well products have been made  • why materials have been chosen  • what methods of construction have been used  • how well products work  • how well products achieve their purposes  • how well products meet user needs and wants  • who designed and made the products  • where products were designed and made  • when products were designed and made  • whether products can be recycled or reused  Technical Knowledge  • how to use learning from science to help design and make products that work  • how to use learning from mathematics to help design and make products that work  • that materials have both functional properties and aesthetic qualities  *• that a single fabric shape can be used to make a 3D textiles product* | **Core vocabulary:**  **Tier 3**  running stitch, backward stitch, running backward stitch, oversew stitch  hemming  **Tier 2**  Design criteria  Target audience  Market research  Functional  Aesthetic  Properties  Strength  Texture  Weave  Waterproof  Finishing |
| **Curriculum threads to be covered:-**  **Reading –**   * identifying how language, structure, and presentation contribute to meaning   **Computing –**  **British Values :**   * To enable students to develop their self-knowledge, self-esteem and self-confidence * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely * To encourage respect for other people   **PSHE – N/A** | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.  Y1- different stitches  Y3- instruments- using annotated diagrams to plan  Y4- moving toys- using design criteria | |



**Year 4 DT Programme of Study**

**Project:** Mechanisms- moving toys

**Question:** Do moving toys need batteries?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know that mechanical systems have an input, process and output**   * Exploring existing cam toys, observe how the mechanism works * Identify the input- what do you do to make it work? * Identify the process- what happens inside the mechanism? * Identify the output- what is the end result?   **To know how making a prototype can help to make an effective final product**   * Explore using cardboard cams and other materials to create a mechanism to develop secure understanding. * Make a prototype of the moving image/object to test how it works with a cam.   **To know how to select appropriate tools and equipment and use these safely (Communication, Health)**   * Revise safety rules for saws and vices as in Year Two * Introduce the safe use of a hand drill and allow pupils to practice * When planning, explain the equipment they will use for different tasks   **To know how to use annotated diagrams to plan effectively** (**Communication)**   * A greater level of detail is expected than Year 3 include tools, techniques, explanations and reasons * Use a given design criteria to focus ideas * Consider the order of the main stages of construction   **To know that accuracy in measuring, marking and cutting is vital to an effective mechanism (Aspiration)**   * When making prototypes, discuss the impact of mis-measuring and use mistakes as a learning point for the class ahead of making final products * Use mathematical skills to accurately measure and mark materials for cutting * Use vices carefully to ensure cuts are made accurately on marks   **To know how a cam can be used to create movement in a simple mechanism**   * End product will be a cam mechanism within a wooden frame which moves multiple small crafted objects up and down when the wheel is turned.   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment  • explain how particular parts of their products work  • develop their own design criteria and use these to inform their ideas  • share and clarify ideas through discussion  • model their ideas using prototypes and pattern pieces  • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas  Making  • 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  *• order the main stages of making*  • follow procedures for safety and hygiene  • use a wider range of materials and components than KS1, including construction materials 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  Evaluating  • identify the strengths and areas for development in their ideas and products  • refer to their design criteria as they design and make  • use their design criteria to evaluate their completed products  Technical Knowledge  • how to use learning from mathematics to help design and make products that work  • that materials have both functional properties and aesthetic qualities  *• that materials can be combined and mixed to create more useful characteristics*  • that mechanical and electrical systems have an input, process and output  *• the correct technical vocabulary for the projects they are undertaking*  • how mechanical systems such as levers and linkages or pneumatic systems create  Movement  • how to make strong, stiff shell structures | **Core vocabulary:**  **Tier 3**  Input  Process  Output  Prototype  cam  **Tier 2**  Aesthetic  Functional  Hacksaw  Vice  Drill  Movement  Linear  Parallel  perpendicular  design criteria |
| **Curriculum threads to be covered:-**  **Reading –**   * identifying how language, structure, and presentation contribute to meaning   **Computing –**  **British Values –:**   * **To enable students to develop their self-knowledge, self-esteem and self-confidence.** * **To encourage respect for other people**   **PSHE –** Health and Wellbeing ˃Keeping Safe- CORAM Life Education- ***Keeping ourselves safe*** (Year 4) | | |
| **Previous learning which will support the learning and skill development in this topic:**  Y3- Construction Musical instruments- cutting and joining wood, strengthening, safe use of saws, vices and hammers, annotated diagrams  Y2- Construction Balloon buggies- moving mechanism- axels and wheels  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. | | |

**Year 5 DT Programme of Study**

**Project:** Construction: Pizza oven

**Question:** Do ovens belong in the kitchen?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: Communication, Health, World Citizen, Beliefs, Aspiration | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know how to develop my ideas through modelling, discussion and diagrams (Communication)**   * Research temporary pizza oven designs and what they need to be successful eg roof shape, opening etc then develop design criteria * Using wooden bricks, explore possible designs for the pizza oven, using the design criteria. Photograph and annotate. * Use investigations to create a cross sectional drawing of design for a real-life pizza oven, annotating with materials choices etc   **To know which tools, components and materials to choose for particular purposes** (**World Citizen Communication Health)**   * Find out about building materials, evaluate their benefits and their cost. * Match appropriate building materials to the project and justify choices * Consider the sustainability of these resources, such as which will be reusable afterwards * Identify tools needed ahead of beginning construction. * Create safety rules for construction   **To know how to evaluate the success of my product**  (**Communication Aspiration World Citizen)**   * Critically evaluate the product, including getting the views of others. * Is it successful? Use the design criteria   **To know ways to strengthen a construction (Communication Aspiration)**   * After evaluating the temporary pizza oven, research ways that this could have been made as a permanent structure. * What tools would be needed? * Create an annotated sketch   **To create a temporary structure for a purpose using construction materials safely** (**Aspiration Health World Citizen)**   * End product will be a functioning pizza oven for the Year Three pupils to use as part of their DT unit on Making Pizza * It will be made from appropriate construction materials, using structure to give it stability as it is a temporary structure * This project should involve members of the community such as parents and governors to join in with the construction and cooking.   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • share and clarify ideas through discussion  • model their ideas using prototypes and pattern pieces  • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas  *• make design decisions, taking account of constraints such as time, resources and cost*  Making  • 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  *• produce appropriate lists of tools, equipment and materials that they need*  *• formulate step-by-step plans as a guide to making*  • follow procedures for safety and hygiene  • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components  • demonstrate resourcefulness when tackling practical problems  Evaluating  • identify the strengths and areas for development in their ideas and products  • consider the views of others, including intended users, to improve their work  • 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*  • how much products cost to make  • how innovative products are  • how sustainable the materials in products are  • what impact products have beyond their intended purpose  Technical knowledge  • how to use learning from science to help design and make products that work  *• that materials can be combined and mixed to create more useful characteristics*  *• the correct technical vocabulary for the projects they are undertaking*  • how to reinforce and strengthen a 3D framework  • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source | **Core vocabulary:**  **Tier 3**  circular saw  jigwsaw  angle-grinder  jig  Chimney flue  Fireclay  **Tier 2**  Mortar  Cement  Concrete  concrete blocks  slabs  fire-resistant  load-bearing  Wood  metals  Clay  Brick  Sand  Arched roof  Kindling  Pizza peel  Other tools |
| **Curriculum threads to be covered:-**  Reading –   * Reading books that are structured in different ways and reading for a range of purposes * Discussing their understanding and exploring the meaning of words in context   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely (exploring collaborative construction with members of the school community; identifying the impact of their construction and how this supports another year group- Y3).   PSHE – Relationships ˃Healthy Relationships- CORAM Life Education- ***Collaboration Challenge!*** (Year 5) | | |
| **Previous learning which will support the learning and skill development in this topic:**  Y5- Electrical systems- cross sectional drawing, beginning to evaluate critically  Y4- annotated sketches, beginning to develop own design criteria, making prototypes  Y3- Making Pizzas project links directly and both need teaching simultaneously  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. | | |

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A starting point:  <https://www.instructables.com/id/How-to-Build-a-Temporary-Wood-fired-Brick-Pizza-Ov/>

**Year 5 DT Programme of Study**

**Project: Electrical systems- Torches**

**Question:** Are more expensive products more effective?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know that electricity was first discovered by Benjamin Franklin and there have been many great inventions linked to electricity since then.** (**Aspiration)**   * Learn about key scientists and inventors linked to electricity including: * Benjamin Franklin’s kite experiment 1750 * Michael Faraday invented the electric motor 1821 * Thomas Edison invented the electric light bulb 1879   **To know how existing products vary in cost and effectiveness (World Citizen)**   * Find out about the cost of raw materials eg types of bulb- filament, LED, halogen and the advantages/disadvantages of these, plus the environmental impact (how long they last, materials used etc) * Compare the cost of torches to the amount of light they produce- why?   **To know how to make a simple electrical circuit (Communication)**   * Identify the input, process and output of the circuit * Know that a circuit must form a loop, understanding that the switch breaks or completes the loop * Know that a circuit requires a power source * Follow multiple steps to create a circuit, reacting to problems appropriately   **To know that electricity can be very dangerous and batteries are a safer way to use electricity (Health)**   * When making products learn about safety features such as insulated wires, how mains is different to batteries, electrical safety rules to live by.   **To know how to explain a design using cross-sectional drawing** (**Communication)**   * After gaining experience making the simple circuit, discuss how to apply this to make a functional torch. * Use a cross sectional diagram to show how the electrical components will be contained and how the bulb will be used to create an effective torch.   **To know how to use an electrical circuit to make a simple functioning product** (**Communication Aspiration)**   * End product will be a torch with a contained electrical circuit and a functioning switch * End product will be critically evaluated for its design, manufacture and fitness for purpose   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment  • describe the purpose of their products  • explain how particular parts of their products work  • share and clarify ideas through discussion  • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas  Making  • follow procedures for safety and hygiene  • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components  *• use techniques that involve a number of steps*  • demonstrate resourcefulness when tackling practical problems  Evaluating  • identify the strengths and areas for development in their ideas and products  • critically evaluate the quality of the design, manufacture and fitness for purpose of their  products as they design and make  • why materials have been chosen  • how well products work  • how well products achieve their purposes  • how well products meet user needs and wants  • how much products cost to make  • how innovative products are  • how sustainable the materials in products are  • what impact products have beyond their intended purpose  \* about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products  Technical knowledge  • how to use learning from science to help design and make products that work  *• that materials can be combined and mixed to create more useful characteristics*  • that mechanical and electrical systems have an input, process and output  *• the correct technical vocabulary for the projects they are undertaking*  • how simple electrical circuits and components can be used to create functional products | **Core vocabulary:**  **Tier 3**  Filament  LED  Halogen  Zinc chloride cell  Push switch  Toggle switch  Slide switch  Cross-sectional diagram  **Tier 2**  Battery  Battery holder  Power source  Bulb  Bulb holder  Crocodile leads  Insulated wire  Crocodile clips  Connect  Circuit  Loop  charge  environmental impact  discovered  invented |
| **Curriculum threads to be covered:-**  Reading –   * reading books that are structured in different ways and reading for a range of purposes * distinguish between statements of fact and opinion   Computing –  British Values :   * To enable students to develop their self-knowledge, self-esteem and self-confidence * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely (links to these values made when exploring cost of raw materials and use of resources; impact resources used can have on the environment) * To encourage respect for other people   PSHE – N/A | | |
| **Previous learning which will support the learning and skill development in this topic:**  Y4 Moving toys- input, process and output explored and identified  Y3 Musical instruments- combining different materials in permanent and temporary ways  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. | | |

**Year 6 DT Programme of Study**

**Project:** Food: Brazilian Burgers

**Question:** Can burgers be healthy?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: **Communication, Health, World Citizen, Beliefs, Aspiration** | | |
| **Key Knowledge (the non-negotiable facts)**  **Ask the project question at the start of the unit:**  **To know where our food comes from and how it is processed**  **(Health, World Citizen Aspiration)**   * Research where key ingredients of burgers come from and how they are processed, focusing on how meat is reared and animal welfare. * Learn how cheese in made from milk [www.youtube.com/watch?v=AMKDZ23DZaw](http://www.youtube.com/watch?v=AMKDZ23DZaw) * Compare block cheese to heavily processed cheeses such as cheese slices and how this affects the health benefits   **To know how to evaluate and compare existing products, including how they meet the customers’ needs, to inform design criteria**(**Communication)**   * Evaluate existing products based upon presentation, nutritional value, cost, taste, customer appeal, innovation (E.g. big mac, whopper, microwave ready meal e.g. rustlers, gourmet burger, turkey burger etc) * Use evaluation and findings to begin to understand customers’ needs and develop a questionnaire. * Questionnaire will inform design criteria.   **To know that a recipe can be adapted by substituting ingredients**   * Explore how the flavour is changed by making simple substitutions such as adding different herbs and spices, changing the type of cheese etc.   **To know how to use an exploded diagram (Communication)**   * Introduce exploded diagrams and how they are used to communicate designs * Use an exploded diagram to communicate their design idea. * Include design features to appeal to the target audience * Calculate the cost per burger   **To know which tools and equipment are appropriate for different food preparation tasks**(**Communication)**   * Safely use knives, graters, peelers, and heat sources as appropriate * Create a list of tools and ingredients they will need   **To know how to prepare a savoury meal to appeal to the target audience (Aspiration Communication Health)**   * End product will be a seasoned burger on a bread roll with other accompaniments on the bun, such as cheese and salad. * The burger will be critically evaluated against the design criteria * Pupils will make serving suggestions in order to make this a balanced meal   **Refer back to the project question at the end of the unit:** | **Key concepts (artistic skills) from progression document**  Designing  • indicate the design features of their products that will appeal to intended users  • carry out research, using surveys, interviews, questionnaires and web-based resources  • identify the needs, wants, preferences and values of particular individuals and groups  *• develop a simple design specification to guide their thinking*  • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas  Making  • 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  • follow procedures for safety and hygiene  *• produce appropriate lists of tools, equipment and materials that they need*  • 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  *• use techniques that involve a number of steps*  • demonstrate resourcefulness when tackling practical problems  Evaluating  • consider the views of others, including intended users, to improve their work  • 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*  • how well products have been designed  • how well products have been made  • how well products meet user needs and wants  • how much products cost to make  • how innovative products are  Technical Knowledge  *• that a recipe can be adapted by adding or substituting one or more ingredients*  *• the correct technical vocabulary for the projects they are undertaking*  • how to use learning from mathematics to help design and make products that work  Cooking and Nutrition  Across KS2 pupils should know:  • 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  • that seasons may affect the food available  • how food is processed into ingredients that can be eaten or used in cooking  • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source  • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking  *• that recipes can be adapted to change the appearance, taste, texture and aroma*  • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health | **Core vocabulary:**  **Tier 3**  Sustainable farming  Free range  **Tier 2**  Herbs  Spices  Seasoning  Ingredients  Mince  Grate  Slice  Dice  Mix  Fry  Nutrition  Carbohydrate  Protein  Vitamins  Minerals  Balanced  Microwave  Hob  Oven  Barbecue  Target audience  Market research |
| **Curriculum threads to be covered:-**  Reading –   * reading books that are structured in different ways and reading for a range of purposes   Computing –  British Values :   * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely * To further tolerance and harmony between different cultural traditions by enabling students to acquire an appreciation of and respect for their own and other cultures * To encourage respect for other people   PSHE – N/A | | |
| **Previous learning which will support the learning and skill development in this topic:**  YR  ELG 04-Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.  ELG 16-Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG17-Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.  Y3- food- making Pizza- preparation techniques, balanced nutrition, seasonal ingredients, how food is grown  Y5- focus on more ciritcal evaluation and creating own success criteria  Brazil topic in previous year | | |

**Year 6 DT Programme of Study**

**Project:** Textiles: Upcycling clothes

**Question:** Is fast fashion sustainable?

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| **Curriculum aims**: Be positive, Be respectful, Be resilient, Be independent, Be knowledgeable, Be ambitious, Be confident. | | |
| **Curriculum drivers**: Communication, Health, World Citizen, Beliefs, Aspiration | | |
| **Key Knowledge (the non-negotiable facts)**  **To know how the fashion industry is impacting our world**   World Citizen Aspiration Communication   * Research how ‘fast fashion’ businesses (Boohoo, Primark) make their items low cost and evaluate them for quality. * Research top end “designer” brands and Eco clothing brands also, evaluating and comparing cost to make, cost to buy, environmental impact, innovation etc * Briefly address “make do and mend” initiative during ww2   **To know how to make simple, common repairs to clothing.** World Citizen,   * Practice sewing on a button * Practice pinning a torn seam and joining with a small, inconspicuous but strong stitch such as a backstitch   **To know ways to embellish and finish fabric items** Aspiration   * Learn about ways to embellish items including: sewing on a trim/fringe/lace for example, around the hem of a skirt to lengthen it or add interest; adding an applique patch; dye techniques such as tie dye; transfer paper which can be used to add a digital image to fabric; and using fabric paints or pens. * Pupils are not expected to try all of these, but learn about them so that they can create their design, taking into account the time, resources and cost.   **To know how to use planning to develop ideas effectively** Communication   * Use discussion about the different items of clothing to develop ideas about their own and other people’s work. * Chose to use annotated sketching, exploded diagrams etc to develop design and be able to explain why that model was appropriate to the task. * Plan measurements, positions etc for precision when making the final product, including the use of a pattern/prototype to check ideas work effectively and to support ordering the steps. * Explain choice of fabric, thread, stitches etc in terms of function and aesthetics   **To know how to apply these skills to upcycle an existing item of clothing**  World Citizen Aspiration Communication   * End product will be the repair/embellishment of an existing item of clothing for the pupil to take home and wear. Pupils should be encouraged to bring in an existing item from their wardrobe (and make donations of any other unwanted item for their peers to use if they are unable to bring something in. Leftover clothes at the end of the unit can be donated to local charity) * End product will demonstrate creativity and resourcefulness, with the use of appropriate stitches to join components | **Key concepts (artistic skills) from progression document**  Designing  • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment  • generate innovative ideas, drawing on research  *• make design decisions, taking account of constraints such as time, resources and cost*  • share and clarify ideas through discussion  • model their ideas using prototypes and pattern pieces  • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas  Making  • select materials and components suitable for the task  • explain their choice of materials and components according to functional properties and aesthetic qualities  • 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  *• use techniques that involve a number of steps*  • demonstrate resourcefulness when tackling practical problems  *• produce appropriate lists of tools, equipment and materials that they need*  *• formulate step-by-step plans as a guide to making*  Evaluating  • identify the strengths and areas for development in their ideas and products  • consider the views of others, including intended users, to improve their work  • how much products cost to make  • how innovative products are  • how sustainable the materials in products are  • what impact products have beyond their intended purpose  \* about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products  Technical Knowledge  *• that a 3D textiles product can be made from a combination of fabric shapes*  *• the correct technical vocabulary for the projects they are undertaking*  • that materials have both functional properties and aesthetic qualities  *• that materials can be combined and mixed to create more useful characteristics*  • how to use learning from mathematics to help design and make products that work | **Core vocabulary:**  **Tier 3**  running stitch, backward stitch, running backward stitch, oversew stitch  hemming  applique  pattern  **Tier 2**  Seam  Upcycle  Repair  Embellish  Tie-dye  Innovative  Quality  Durability  Environmental impact  Pollution Overconsumption  Toxic chemicals  Sweatshops  Carbon footprint  Sustainable  Unsustainable |
| **Curriculum threads to be covered:-**  Reading –   * discussing their understanding and exploring the meaning of words in context * distinguish between statements of fact and opinion   Computing –  British Values –   * To encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely   PSHE – Living in the wider world – What’s it worth? | | |
| **Previous learning which will support the learning and skill development in this topic:**  Y4- canvas bags- introduces embellishment and secures knowledge of stitches, considers how fabric products impact the environment  Y1- money containers- introduces different stitches  Throughout key stage 2, pupils have used a range of diagrams to develop and plan designs, and have developed critical evaluation skills. | | |

<https://www.ethicalconsumer.org/fashion-clothing/what-fast-fashion-why-it-problem>

<https://thesewingloftblog.com/100-ways-to-upcycle-your-clothing/>

