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| **Autumn** – Seasonal Food & Healthy Eating (Food & Nutrition)  **Learning Outcomes** –   * I can research the benefits of eating a balanced diet. * I can recognise why a healthy diet is important. * I can plan a recipe for stuffed peppers. * I can design a healthy dish. * I can make and evaluate stuffed peppers. * I know how seasonal fruits in Britain are grown and processed. * I know that food can be grown, caught, reared or processed. | | | | | |
| **Throughout the year**   * Describe the purpose of their products * Share and clarify ideas through discussion * Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas * Explain their choice of tools and equipment in relation to the skills and techniques they will be using * Explain their choice of materials and components according to functional properties and aesthetic qualities * Apply a range of finishing techniques, including those from art and design, with some accuracy * Refer to their design criteria as they design and make * Evaluation: Use their design criteria to evaluate their completed products and identify the strengths and areas for development in their ideas and products | | | | | |
| **Skills:** | **Design**   * Show design meets a range of requirements * Produce a plan and explain it to others - Say how realistic plan is. * Include an annotated sketch * Make and explain design decisions considering availability of resources | **Make**   * Select suitable tools and equipment * Select appropriate ingredients, fit for purpose; explain choices * Work through plan in order. * Realise if product is going to be good quality * Measure, cut and shape ingredients with some accuracy * Assemble and combine ingredients with some accuracy | **Evaluate**   * Refer to design criteria to evaluate product * Begin to explain how I could improve original design * Discuss by whom, when and where products were designed * Know about chefs | **Technical Knowledge – Food & Nutrition**   * Explain how to be safe/hygienic * Think about presenting product in interesting/ attractive ways * Understand ingredients can be fresh, pre-cooked or processed * Begin to understand about food being grown, reared or caught in the UK or wider world * Describe eat well plate and how a healthy diet=variety / balance of food and drinks * Explain importance of food and drink for active, healthy bodies * Prepare and cook some dishes safely and hygienically * Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking | **Vocabulary**   * Fruit * Vegetables * Ingredients * Produce * Eatwell plate * Dairy * Carbohydrates * Protein * Fats * Fresh * Combine * Preparation * Health * Balanced diet * Design * Evaluate * Research |
| **Spring** – Alarms (Electronics)  **Learning Outcomes** –   * I can research what alarm systems are used for and how different types of switches are activated. * I can investigate how to create circuits with a variety of different switches. * I can design an alarm system for a particular purpose. * I can make an alarm system based on a design. * I can evaluate a finished alarm system. | | | | | |
| **Throughout the year**   * Describe the purpose of their products * Share and clarify ideas through discussion * Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas * Explain their choice of tools and equipment in relation to the skills and techniques they will be using * Explain their choice of materials and components according to functional properties and aesthetic qualities * Apply a range of finishing techniques, including those from art and design, with some accuracy * Refer to their design criteria as they design and make * Evaluation: Use their design criteria to evaluate their completed products and identify the strengths and areas for development in their ideas and products | | | | | |
| **Skills:** | **Design**   * Show design meets a range of requirements and is fit for purpose * Begin to create own design criteria * Have at least one idea about how to create product * Produce a plan and explain it to others - - Say how realistic plan is. * Include an annotated sketch * Make and explain design decisions considering availability of resources * Explain how product will work * Make a prototype * Begin to use computers to show design. | **Make**   * Select suitable tools and equipment, explain choices in relation to required techniques and use accurately * Select appropriate materials, fit for purpose; explain choices * Work through plan in order. * Assemble, join and combine materials and components with some accuracy | **Evaluate**   * Refer to design criteria to evaluate product * Begin to explain how I could improve original design * Evaluate existing products, considering: how well they’ve been made, materials, whether they work, how they have been made, fit for purpose * Discuss by whom, when and where products were designed * Research whether products can be recycled or reused * Know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products | **Technical Knowledge – Electronics**   * Use simple circuit in product * Use number of components in circuit | **Vocabulary**   * Circuit * Alarm * Negative * Positive * Connect * Wire * Sound * Power Source * Control * Push-to-make * Push-to-break * Design * Evaluate * Research |
| **Summer** – Aqueducts (Structures)  **Learning Outcomes** –   * I can research and explore the purpose, function and design of Aqueducts. * I can explore different materials for structure, strength, durability and water resistance and how they can be combined. * I can design and label an aqueduct, thinking about the form it will take and how it will work. * I can construct the final product, test its function and revaluate its efficiency. * I can evaluate the prototype and consider materials for the final product * I can use mathematical skills to measure and scale | | | | | |
| **Throughout the year**   * Describe the purpose of their products * Share and clarify ideas through discussion * Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas * Explain their choice of tools and equipment in relation to the skills and techniques they will be using * Explain their choice of materials and components according to functional properties and aesthetic qualities * Apply a range of finishing techniques, including those from art and design, with some accuracy * Refer to their design criteria as they design and make * Evaluation: Use their design criteria to evaluate their completed products and identify the strengths and areas for development in their ideas and products | | | | | |
| **Skills:** | **Design**   * Use research for design ideas * Show design meets a range of requirements and is fit for purpose * Have at least one idea about how to create product and suggest improvements for design. * Produce a plan and explain it to others - - Say how realistic plan is. * Include an annotated sketch * Make and explain design decisions considering availability of resources * Make a prototype | **Make**   * Select suitable tools and equipment, explain choices in relation to required techniques and use accurately * Select appropriate materials, fit for purpose; explain choices * Work through plan in order. * Measure, mark out, cut and shape materials/components with some accuracy * Assemble, join and combine materials and components with some accuracy | **Evaluate**   * Refer to design criteria to evaluate product * Begin to explain how I could improve original design * Evaluate existing products, considering: how well they’ve been made, materials, whether they work, how they have been made, fit for purpose * Discuss by whom, when and where products were designed * Know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products | **Technical Knowledge – Structures**   * Measure carefully to avoid mistakes * Attempt to make product strong * Continue working on product even if original didn’t work * Make a strong, stiff structure | **Vocabulary**   * Water bridge * Sanitation * Waterway * Engineering * Arches * Romans * Function * Arcade * Construction * Design * Evaluate * Research |